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ABSTRACT

The processes used by State Education Agencies (SEAs) to develop capacity for gaining access to information resources and for linking such resources to the needs of educators are described by studying SEAs that have received capacity building grants. Included are an overview of the evaluation, purposes of the study, framework, evaluation questions, data collection methods, analytic techniques, and findings. A description of the scales used to measure facets of an SEA dissemination system is appended. (Author/JD)

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BUILDING CAPACITY FOR IMPROVEMENT OF EDUCATIONAL PRACTICE: AN EVALUATION OF NIE'S STATE DISSEMINATION GRANTS PROGRAM

U S DEPARTMENT OF HEALTH
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INTERIM REPORT

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PREFACE

The State Dissemination Grants Program is a major initiative within the mission of the National Institute of Education "to promote educational equity and improve the quality of educational practice." The Program can be seen as contributing to an emerging nationwide configuration of efforts for the improvement of educational practice. NIE expects the State Dissemination Grants Program (SDGP) will aid the development of a nationwide capability for educational improvement by assisting a group of significant actors, state education agencies (SEAs), to strengthen their ability to provide "comprehensive and generalized" dissemination services to their clientele.

Under the sponsorship of the NIE's Program on Dissemination and Improvement of Practice, NTS Research Corporation is conducting a study of the capacity building component of the State Dissemination Grants Program (NIE Contract No. 400-76-0166, October 1976). Two major questions guide the NTS study:

- Is dissemination capacity being built as a result of this Program? If so, how?

- Is the Program having an effect? If so, what is the nature of the effect?

The evaluation is in two phases. Phase I of the study, an eleven-month design phase that extended from October 1976 through August 1977, was devoted to describing the Program, clarifying and translating the Program's goals into measurable variables, and developing a design, appropriate instrumentation, and data collection and analysis procedures for the study. Familiarization visits to 23 projects, refinements in the study design, and approval of a forms clearance package occurred during September 1977 through August 1978. Phase II, the full-scale evaluation, was initiated in September 1978, and is scheduled to conclude in April 1980. Phase II objectives include describing and tracking the process of building dissemination capacity, documenting the impact of the Program, sharing the study findings and analyses with NIE and the states to promote Program and project improvement, and developing mechanisms for the continual evaluation and measurement of capacity building.

Five major documents were produced during Phase I of the NTS study:

- 1977 State Abstracts (September 1977) contains summaries of twenty-four capacity building projects. Included are the ten states initially funded in 1975 and the fourteen additional projects funded in 1976. The abstracts document dissemination activities in the SEAs as of May 1977.

- State Reports (July 1977) contains extensive documentation on nine of the first states funded through the capacity building component of the State Dissemination Grants Program. The mini-case studies examine dissemination activities in the nine SEAs as of May 1977.

- A Compendium of Evaluation and Documentation Forms Currently in Use by State Capacity Building Projects (July 1977) is a compilation of selected instrumentation used by the capacity building projects. An accompanying narrative describes the included materials.

- Final Design Report for the Evaluation of the State Capacity Building Grants Program (July 1977) is a two-volume report. Volume I contains the proposed designs for the full-scale evaluation. Volume II contains proposed instrumentation.

- Building Capacity in Dissemination: Literature Review (March 1977) was used to inform the design process. The Literature Review consists of two separate but related products. The first summarizes dissemination literature, using an organizing framework which parallels that followed in NTS design work. The second product consists of an extensive bibliography and outline of topics covered in the Review. Each entry in the outline is followed by a list of relevant citations.

Major reports prepared during Phase II of the NTS study include:

- This report, Building Capacity for Improvement of Education: An Evaluation of NIE's State Dissemination Grants Program (Interim Report, August 1979), is an interim report on the full-scale evaluation of the capacity building component of the State Dissemination Grants Program. Included is an overview of the evaluation, purposes of the study, framework, evaluation questions, data collection methods, analytic techniques, and findings. The process used by SEAs to develop capacity for gaining access to information resources and for linking such resources to the needs of educators are described by studying SEAs that have received capacity building grants.

- 1978 State Abstracts (March 1979) contains summaries of dissemination activities in twenty-nine SEAs as of November 1978. Included are nine SEAs initially funded in 1975, fourteen additional projects initially funded in 1976, and six SEAs initially funded in 1977. An introductory chapter presents an analysis across the individual projects.

- Intelligence for Dissemination Service Capacity: A Conceptual Framework (March 1979) expands an earlier framework into a heuristic device for studying users of educational dissemination services. This conceptual framework was completed to guide the development and refinement of questions, variables, and instrumentation for users and usages of dissemination services.

- Information About Users and Usages: A Literature Review (March 1979) is a companion document to A Conceptual Framework. The review was prepared as part of the design process used to develop the framework.

- The Client Assessment Package (December 1978) is a set of five machine-readable instruments developed by NTS to record the process of seeking and using information and assistance for educational improvement. Linked by a common identification field, the five forms in the package are the Service Form, Process Form, Linker Form, Immediate Feedback Form, and Client Assessment Form. An accompanying Guide to the Client Assessment Package provides instructions for completing and using the forms.

- Request for OMB Clearance with Supporting Documents for the Evaluation of the State Capacity Building Program in Dissemination (June 1978) is the justification and instrumentation package prepared for and approved by the Office of Management and Budget for use in the evaluation.

- A Framework for the Evaluation of the State Capacity Building Program (May 1978) presents the organizing framework for the evaluation. The focus of the evaluation, dissemination capacity, is conceptualized to consist of two major components: service capacity and user capacity. The first year of the full-scale evaluation examines service capacity; further design work will specify the focus of the second year's evaluation.

Additional documents will be prepared during the second year of the full-scale study. By evaluating the process of developing dissemination capacity in selected SEAs and by assessing the Program's effects, the NTS study aims to provide basic information for the improvement of state dissemination efforts, to develop mechanisms for the continual evaluation and measurement of dissemination capacity, and by so doing, to foster the development of a nationwide educational dissemination system or configuration.

ACKNOWLEDGMENTS

This volume is the Interim Report of the study of the State Capacity Building Program, initiated in 1976 and supported by the National Institute of Education. Many individuals have contributed to this effort.

We wish to thank the Chief State School Officers for their cooperation in supporting our study and particularly, Paul Sandifer, who served as liaison with the Committee on Evaluation and Information Systems for the Council of Chief State School Officers.

We would also like to thank the directors, staffs and monitors of the capacity building projects included in this study. Without their open and enthusiastic cooperation, this report would not have been written.

For their helpful suggestions and comments, we would like to thank NIE Research and Educational Practice Program personnel Michael B. Kane, John Egermeier, Ward Mason, and Naida Bagenstos; NTS colleagues A. Jackson Stenner, Sol H. Pelavin, and Robert Goettel; and consultants Charles Mojkowski, Carnot Nelson, Brenda Turnbull, and Robert Yin. None of them bear responsibility, however, for any shortcomings of the report.

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I

INTRODUCTION

The National Institute of Education (NIE) has a commitment to the dissemination of educational R&D results and of other forms of new knowledge as a means of meeting its 1972 Congressional mandate "to promote educational equity and improve the quality of educational practice."[1.1] Congressional reauthorization in 1977 reinforced NIE's commitment to dissemination activities directing that NIE improve education by concentrating resources on five priority areas, including

> ...improved dissemination of the results of knowledge gained from education research and development, including assistance to educational agencies and institutions in the application of new results and knowledge.[1.2]

One of the Institute's strategies for meeting its legislative mandate is to facilitate the development of a nationwide capacity for dissemination that will assist educational improvement efforts. The Institute's approach has been to work through intermediate, state and regional levels, rather than to directly support school improvement efforts at the local level; this approach is in keeping with limited Federal authority and funds for such direct involvement.[1.3]

As one element of the approach to meeting its mandate to aid in the dissemination of knowledge gained from research and development, NIE developed the State Dissemination Grants Program (SDGP). Established in

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1.1 National Institute of Education, The National Institute of Education, U.S. Department of Health, Education and Welfare, Washington, D.C., 1979.

1.2 Public Law 92-318 Section 405 (b)(2)(E), amended October 12, 1976 P.L. 94-482, Title IV, Sec. 403.

1.3 NIE's authorizing legislation stipulates that "while the direction of the educational system remains primarily the responsibility of state and local governments, the Federal government has a clear responsibility to provide leadership in the conduct of support of scientific inquiry into the educational process." (Public Law 92-318, Section 405 (a)(1)).

1975, SDGP assists state education agencies (SEAs) in implementing, strengthening, and institutionalizing state-level dissemination systems or capacities.

Through the SDGP two types of awards are made:

- Capacity Building Grants, which average $100,000 each, support activities to develop the capability or readiness of an SEA to provide dissemination services to its constituents. These grants support SEA efforts to build a comprehensive and generalized dissemination capacity or system. These awards are of one-year duration and potentially renewable for three-to-five years.

- Special Purpose Grants, which average $25,000 each, support relatively low-cost, short-term SEA improvement efforts related to building a dissemination system. These grants are used to support such SEA activities as initial planning, training of personnel, or development of specific dissemination resources.

Throughout this report, "State Dissemination Grants Program" or "SDGP" refers to the overall NIE Program which awards both capacity building and special purpose grants to SEAs; "State Capacity Building Program," "SCBP," or "Program" refers to the specific component of the SDGP which awards capacity building grants to SEAs and is the object of the NTS study; "capacity building project" or "project" refers to the resultant intervention at the SEA level. In other words, the project refers to the specific activities undertaken by an SEA using the money provided by the NIE capacity building grant. Capacity building projects are designed to develop or enhance an SEA's dissemination system, or capacity "for the dissemination of the results of educational research and of new and improved practices and products in education."[1.4] In practically all cases, the capacity building project represents a portion of the SEA's dissemination system. SEA dissemination capacity refers to the resources, services, and institutional arrangements an SEA develops, implements, and institutionalizes for dissemination to improve local practice. An SEA's dissemination system may extend beyond the organizational boundaries of the SEA to include other organizations with which the SEA cooperates in providing needed resources or services for dissemination. Dissemination

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1.4 National Institute of Education, Program Announcement: State Dissemination Grants Program, FY 75, p. 13.

is defined as "a two-way process for communicating knowledge relevant to educational needs and problems so that educational decision makers and practitioners can rationally consider alternatives to current practice and the results of research and development in improving educational programs." 1.5

Under the sponsorship of the Research and Educational Practice unit of NIE's Program on Dissemination and Improvement of Practice, NTS Research Corporation is conducting a study of the State Capacity Building Program. The NTS study examines the building of dissemination capacity in SEAs. The special purpose grants are not included in the NTS study since they are only of one year's duration and are not intended to be comprehensive in scope.

The basic purposes of the NTS study are:

- To assess the impact of the State Capacity Building Program by ascertaining its effects on: (1) the building and institutionalization of dissemination capacity within SEAs; (2) the use of the resulting capacity to (a) provide products and services for local educational improvement; and (b) promote equity in access to all information resources for all educators.

- To ascertain what combinations of contextual characteristics and project characteristics relate to success in implementing and institutionalizing an SEA dissemination system.

- To review NIE's management of the SCBP and its operational procedures, such as proposal review, project funding policies, and project monitoring, and examine how these relate to operations at the project level.

- To derive policy recommendations which may help improve the SCBP and future Federal dissemination programs.

This volume is a review of the interim (September 1977 through April 1979) findings of the NTS study. The remainder of the study, extending from May 1979 through April 1980, will investigate more fully the effects of the SCBP and present a final set of findings and their resultant implications for policy.

1.5 National Institute of Education, Program Announcement: State Dissemination Grants Program, FY 78, p. 6.

This report is comprised of four sections. Section I, the Introduction, has presented a brief overview of the SCBP and the NTS study. Section II presents a general history of Federal dissemination efforts; then the SCBP and its evaluation are more fully described. Section III summarizes interim study findings. Finally, Section IV presents preliminary study conclusions.

II

THE STATE CAPACITY BUILDING PROGRAM

This section provides a detailed description of the State Capacity Building Program. First, a general history of Federal dissemination efforts is presented to place the SCBP within the context of other dissemination efforts to improve educational practice. The general history is followed by an overview of the Program.[2.1] Finally, the evaluation framework for the SCBP is described.

Context for the Program

Three major pieces of Federal legislation have provided a foundation for the development of a nationwide dissemination configuration[2.2] for educational improvement: (1) the National Defense Education Act of 1958, (2) the Elementary and Secondary Education Act of 1965, and (3) the Education Amendments of 1972. These laws resulted in specific programs which have influenced the design and development of the State Capacity Building Program.

The first contemporary Federal dissemination authority given to a U.S. Commissioner of Education was provided in 1958 by Title VII-B of the National Defense Education Act (NDEA):

> [The U.S. Commissioner of Education is authorized to] disseminate information concerning new educational media, including the results of research and experimentation under Part A of this title

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2.1 For a more detailed description of the State Dissemination Grants Program and individual summaries of twenty-nine capacity building projects funded through the Program, see Madey, D.L., et al., 1978 State Abstracts with an Analysis Across the States, NTS Research Corporation: Durham, N.C., March 1979.

2.2 The word "configuration" was chosen to coincide with that agreed upon by professionals in the field of educational dissemination at the June 1977 dissemination forum. The word "system" was rejected as connoting central control and "network" was rejected because of possible confusion with the National Diffusion Network. Configuration was first used in this context by Guba, E., and Clark, D. in The Configuration Perspective: A View of Educational Knowledge Production and Utilization, Council for Educational Development and Research: Washington, D.C., 1974.

> to State or local education agencies, for use in their public elementary and secondary schools, and to institutions of higher education [by entering into contracts for] (1) studies and surveys to determine the need for increased or improved utilization of [instructional media]; (2) catalogs, reviews, bibliographies, abstracts, analyses of research and experimentation, and such other materials as are generally useful in the encouragement and more effective use of [instructional media]; (3) [providing upon request] advice, counsel, technical assistance and demonstrations to state or local educational agencies and institutions of higher education undertaking to utilize such media.[2.3]

In brief, with the passage of Title VII-B, NDEA, the U.S. Commissioner of Education was authorized to provide support, at least with respect to new educational media, for needs assessment, awareness activities, information analyses, demonstrations, and technical assistance to potential adopters.

Title VII-B, NDEA, initiated the first major stream of Federal efforts to plan and establish a nationwide dissemination configuration for educational improvement. Under Title VII-B, elements of the Educational Resources Information Center (ERIC) system were prepared by three institutions (Columbia University, National Education Association, and Case Western Reserve University) and a plan for the network of regional educational laboratories was developed (Pennsylvania State University). Title VII-B projects continue to influence the structure of the nationwide dissemination configuration even though legislative authority for such projects expired in 1968.

A second major stream of Federal efforts to help build a nationwide dissemination configuration for educational improvement began with Title IV of the Elementary and Secondary Education Act (ESEA) of 1965. Title IV authorized the U.S. Commissioner of Education to:

> make grants to, and contracts with, public and [non-profit] private institutions, agencies, and organizations for the dissemination of information, for surveys, [and] for exemplary projects in the field of education.[2.4]

2.3 P.L. 85-864, September 2, 1958, National Defense Education Act, Title VII-B, "Research and Experimentation in More Effective Utilization of Television, Radio, Motion Pictures, and Related Media for Educational Purposes," Sec. 731.

2.4 Enacted April 11, 1965, P.L. 89-10, Title IV; Sec. 401, as Sec. 2 of P.L. 83-531. While Title IV is also referred to as the amended continuation of the Cooperative Research Act of 1954, its dissemination authority was not introduced until 1965.

The above Title IV provision (Educational Research and Research Training) and Title I-B (Library and Information Science Research) enabled the U.S. Office of Education (USOE) to establish a Division of Information Technology and Dissemination (DITD), subsequently called the National Center for Education Communications (NCEC). Recognized as the first Federal office for educational dissemination, NCEC contracted for the operation of the ERIC system (ERIC clearinghouses designed to acquire, process, store and make educational information easily retrievable for practitioners); sponsored a program of awareness and information analysis (Putting Research into Educational Practice, or PREP); initiated several system or network studies (e.g., "Developing a Sensing Network for Information Needs in Education," Paisley et al., 1972); and supported the initial piloting of an educational dissemination program based loosely on the model of the agricultural extension agent.

The third and most recent stream of Federal initiatives began in 1972 with the creation of the National Institute of Education. Authorizing legislation assigned major responsibility for Federal support of dissemination to NIE, while USOE continued its support of dissemination activities related to its own programs.[2.5] The dichotomy resulting from legislation mandating dissemination by both Federal educational agencies was recognized by the members of Congress. The Congressional Record (House, May 23, 1972) contained the following clarification:

> The...intent is that the whole complex set of dissemination/utilization functions that are desirable in this area [become] a major responsibility of the National Institute of Education. This set of functions should include, but not be limited to, the present and proposed fiscal year 1973 activities of NCEC [the National Center for Educational Communications]...These functions also should include other dissemination activities that might be tailored to the Institute's products and programs in the future...
>
> ...This range of functions will provide the Institute with an array of dissemination capabilities, from the single most significant machine information retrieval system to the present system of dissemination agents in the field, who work with states, local agencies, and teachers to help them apply the best of current knowledge to

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2.5 In actuality, NIE provides less support for "utilization" (defined as dissemination and policy implementation demonstrations) than either USOE or the National Science Foundation (Mason, Nelson, and Sowers, 1977, p. 21.)

> their problems...Obviously, the Office of Education must have the capability to disseminate information about its own programs and their results. The conferees expect, therefore, that the Office of Education will continue these functions with respect to the publication of information about specific categorical or formula grant programs that have been authorized by law. The conferees do not, however, intend that the Office of Education undertake the major responsibilities of dissemination, which are vested in the Institute.[2.6]

NIE initially inherited $110 million worth of programs from the Office of Education.[2.7] Among the USOE programs transferred was the $15 million dissemination program. Included as the largest component of this program was ERIC, now a network of sixteen decentralized information clearinghouses and four centralized processing and management centers. The ERIC data base contains about 300,000 documents and journal articles. At nominal cost, users can obtain paper or microfiche copies of ERIC's noncopyrighted holdings.

Other print-based dissemination programs operate under USOE's auspices. For example, USOE's Project Information Packages (PIPs) are designed to increase adoption of exemplary projects in USOE-funded programs such as bilingual education and compensatory education. PIPs provide school districts (potential adopters) with a set of interrelated workbooks on planning, implementing, managing, and evaluating specific USOE programs.

Recognizing that print-based programs like ERIC and PIP may be necessary but not sufficient to improve educational practice, attention turned to interpersonal communication programs as a means of extending the reach of printed materials. The Pilot State Dissemination Grants Program, established by NCEC and later transferred to NIE, experimented with intermediaries (field agents or "linkers") who personally relayed printed materials to practitioners in three states (Oregon, South Carolina and Utah). The evaluation results of the Pilot State Dissemination Grants Program (Sieber et al., 1972) stressed the necessity of personal linkers for ensuring successful usage of ERIC and other printed materials by local practitioners for educational improvement.

2.6 U.S. Congressional Record, House of Representatives, May 22, 1972.

2.7 Sproull, L. et al., Organizing An Anarchy: Belief, Bureaucracy, and Politics in the National Institute of Education, Chicago: University of Chicago, University of Chicago Press, 1978, p. 73.

Together, ERIC and the other print-based programs comprised the first major influence in the design and development of the State Capacity Building Program. The Pilot States Dissemination Grants Program and its concomitant evaluation served as the second major force in the design and development of the SCBP. The third major factor stimulating the development of the SCBP was the assumption that the coordination of the large number (over 30) of distinct Federal education dissemination efforts [2.8] would facilitate local educational, improvement.

The Program

Typically, Federal dissemination programs focus on a particular area of education (e.g., vocational education), deal with a special group of students (e.g., Title I students, handicapped students) or disseminate a specific type of product (e.g., Joint Dissemination Review Panel-approved products). Local school personnel often find it difficult to obtain the information or assistance they need because they may have to contact many different sources. Various dissemination activities require coordination and orchestration which the SDGP provides through the following components: a resources component to make print-based materials available to educational practitioners; a linkage component to help educators seek and use knowledge and knowledge-based products; and a component to coordinate the numerous Federal dissemination programs at the SEA level so local practitioners can easily access and use any and all resources.

Established in June 1975, the State Capacity Building Program provides capacity building grants to state education agencies (SEAs) to strengthen their abilities to provide "comprehensive and generalized" dissemination services to their clientele. NIE provides resources to assist SEAs in implementing and institutionalizing dissemination programs which will

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2.8 Examples of such Federal efforts include the Resource Centers of USOE's Bureau of Education for the Handicapped (16 centers providing assistance to state and local education agencies in implementing Public Law 94-142), the Technical Assistance Centers of USOE's Office of Evaluation and Dissemination (ten centers providing assistance to state and local education agencies in implementing ESEA Title I eval- uation and reporting requirements), and the Regional Coordinating Units (RCUs) of USOE's Bureau of Vocational Education (RCUs serving state and local vocational educators).

facilitate local educational improvement and enhance educational equity. Both of the major goals expressed in the 1972 Congressional mandate to NIE are thus embodied in the SCBP.

NIE perceives the concept of "comprehensive" dissemination capacity as "the leadership and service capability to provide information and technical assistance in the solution of problems identified by the dissemination agency or its clientele."[2.9] Components of comprehensive dissemination capacity include:

- Information resources, that is, "a full range of resources including data, documents, products, and technical expertise,"
- Linkage, that is, "means of linking the client groups to the resource base," and
- Leadership/management, that is, "leadership and management arrangements which facilitate provision of services on any problems to all members of the client group."[2.10]

By the concept of "generalized" dissemination capacity, NIE intends that the dissemination programs developed by projects "should provide access to all information resources for all educators regardless of subject field or role."[2.11]

Within the framework of comprehensive and generalized dissemination capacity, projects have operationalized the equity requirement by using two strategies: targeting services to women, minorities and disadvantaged (i.e., specific-clientele approach), or targeting materials about equal educational opportunity to clients (i.e., specific-topic approach).

Since its inception in 1975, four cohorts, or groups, of states have received capacity building grants through NIE's State Dissemination Grants Program. NIE anticipates supporting one or more additional cohorts, contingent on availability of funds and sufficient interest by those states

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2.9 National Institute of Education, Program Announcement: State Dissemination Grants Program, FY 78, p. 11.

2.10 Ibid., p. 11.

2.11 Ibid., p. 11.

that have not yet been funded. Figure 2.1 indicates the thirty-three states that have received capacity building grants through NIE's State Dissemination Grants Program thus far. Over a three-to-five year period the capacity building projects were provided funds (approximately $100,000 per year), which although small relative to the budget of an SEA, are intended to support activities that improve an SEA's dissemination system or capacity. Over the funding period, states are to gradually assume all costs so that institutionalized SEA dissemination capacities remain after Federal funding ceases.

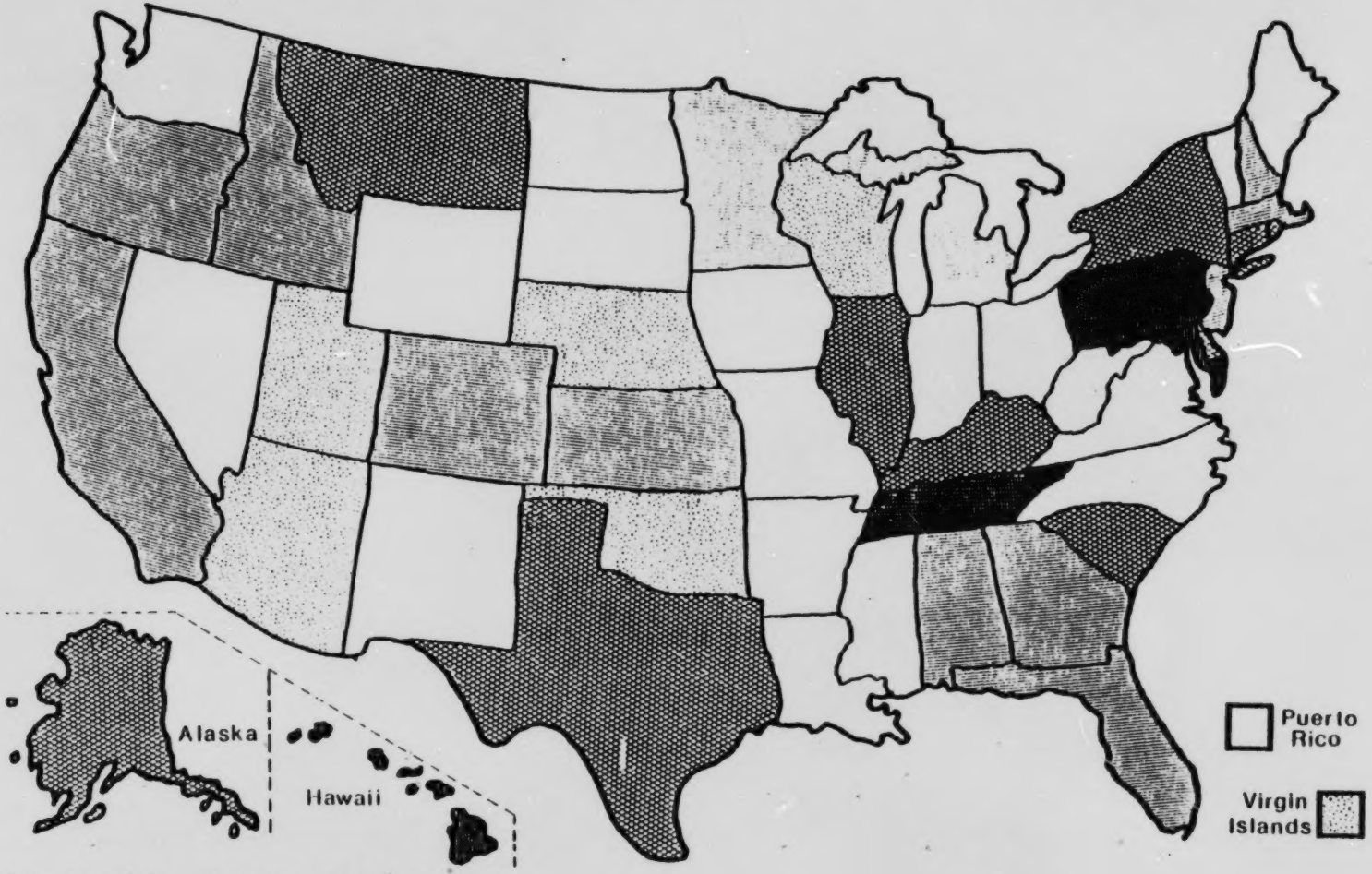
While SEAs with capacity building grants are committed to building dissemination capacity, variation is evident in the ways they proceed. For example, to help improve educational practice one SEA began by focusing on the development of special files to augment its resource base; another, by emphasizing the identification and training of linkage agents to work out of regional educational services centers; and still another, by strengthening the technical assistance activities of the SEA to assist in local problem-solving and improvement efforts. The State Dissemination Grants Program is designed to accommodate such variation. Despite such variations in approach, the capacity building projects have a common ultimate purpose: to facilitate local educational improvement and enhance educational equity by increasing SEA dissemination capacity.

The Evaluation Framework

The goals of the NTS study of the State Capacity Building Program are to examine the building of dissemination capacity in SEAs and to assess the impact of that capacity on SEAs and LEAs. The evaluation has been designed to address two major questions:

- Is dissemination capacity being built as a result of this Program? If so, how?
- Is the Program having an effect? If so, what is the nature of the effect?

The evaluation is in three phases: (1) a design phase that extended for eleven months (October 1976 through August 1977) and was devoted to



States Receiving Capacity Building Grants
Through NIE's State Dissemination
Grants Program

- Cohort I
- Cohort II
- Cohort III
- Cohort IV

Figure 2.1 States Receiving Capacity Building Grants Through NIE's State Dissemination Grants Program

describing the Program, clarifying and translating the Program's goals into measurable variables, and developing a design, appropriate instrumentation, and data collection and analysis procedures for the study; (2) a preparation period (September 1977 through August 1978) during which familiarization visits to 23 projects, refinements in the study design, and approval of a forms clearance package occurred; and (3) the full-scale evaluation (September 1978 through April 1980) which focuses on answering the two major questions.

In order to answer the two major questions, four study questions have been developed:

- How are project characteristics, SEA dissemination system implementation and outcomes influenced by SEA and state contextual characteristics?
- How does NIE management of the SCBP relate to operations at the project level?
- How does the capacity building project affect implementation of the SEA dissemination system?
- What does the SEA dissemination system deliver and how does the SEA dissemination system improve local school practices and enhance educational equity?

The initial findings relevant to the first three study questions are discussed in this Interim Report; the fourth study question will be addressed in the final report.

A Conceptual Framework for the Evaluation

In order to answer the study questions, a conceptual framework was developed to specify and organize those variables which must be studied. Figure 2.2 presents the conceptual framework underlying this evaluation.

The framework incorporates five components; the study questions indicate relationships between the components. The five components of the framework are: (1) Contextual Characteristics; (2) NIE Program Characteristics; (3) State Capacity Building Project Characteristics; (4) Facets of an SEA Dissemination System; and (5) Outcomes: System Outputs and Impacts.

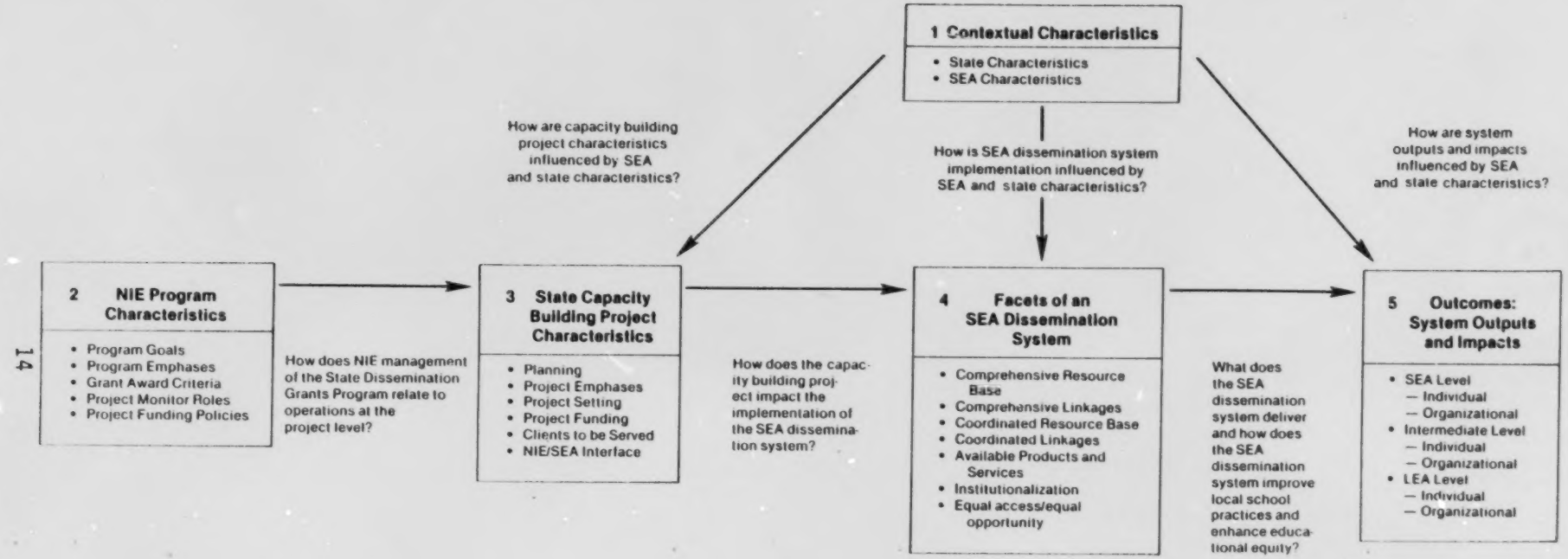

1 Contextual Characteristics
• State Characteristics
• SEA Characteristics
How are capacity building project characteristics influenced by SEA and state characteristics?
How is SEA dissemination system implementation influenced by SEA and state characteristics?
How are system outputs and impacts influenced by SEA and state characteristics?
2 NIE Program Characteristics
• Program Goals
• Program Emphases
• Grant Award Criteria
• Project Monitor Roles
• Project Funding Policies
How does NIE management of the State Dissemination Grants Program relate to operations at the project level?
3 State Capacity Building Project Characteristics
• Planning
• Project Emphases
• Project Setting
• Project Funding
• Clients to be Served
• NIE/SEA Interface
How does the capacity building project impact the implementation of the SEA dissemination system?
4 Facets of an SEA Dissemination System
• Comprehensive Resource Base
• Comprehensive Linkages
• Coordinated Resource Base
• Coordinated Linkages
• Available Products and Services
• Institutionalization
• Equal access/equal opportunity
What does the SEA dissemination system deliver and how does the SEA dissemination system improve local school practices and enhance educational equity?
5 Outcomes: System Outputs and Impacts
• SEA Level
— Individual
— Organizational
• Intermediate Level
— Individual
— Organizational
• LEA Level
— Individual
— Organizational

Figure 2.2 A Framework for the Evaluation of the State Capacity Building Program

Component 1: Contextual Characteristics. The first component refers to variables which describe contextual characteristics of the particular state and SEA. State characteristics include such variables as state size, existence and use of intermediate or regionalized service agencies, school enrollment, number of school districts, and modernity (Herriott and Hodgkins, 1973). SEA characteristics include such variables as attitudes in the SEA towards change, the selection method of the chief state school officer, centralization (Wirt, 1977), previous and current involvement of the SEA personnel in dissemination activities, and the relative influence of the SEA, intermediate education agencies (IEAs), and LEAs in local educational improvement.

Component 2: NIE Program Characteristics. The second component presents variables which may relate to capacity building project characteristics. Included are Program goals, Program emphases, grant award criteria, project funding policies, and project monitor roles.

Component 3: State Capacity Building Project Characteristics. The third component contains variables which describe the resultant program intervention at the SEA level; that is, the project's setting and activities. Project setting includes such variables as the project's number of years in SCBP, funding, location within the SEA, project director tenure, and management arrangements. Project activities include such variables as extent and quality of planning, needs sensing, evaluation, working with IEAs to provide linkage to local school districts, identifying clients, and interacting with NIE.

Component 4: Facets of An SEA Dissemination System. The fourth component refers to the existence and organization of the resources, linkages, services, and institutional arrangements an SEA develops, implements, and institutionalizes to improve local educational practice and enhance educational equity. An SEA dissemination system, of which the capacity building project is usually just a portion, is depicted as being comprised of seven facets. Facet 1, Comprehensive Resource Base, refers to the types of resources (e.g., ERIC, promising practices files) that the SEA has the ability to access. Facet 2, Comprehensive Linkages, refers to the availability and use of a variety of individuals (e.g., SEA staff, IEA

staff, LEA staff) and media (e.g., radio, television, publications) to connect educators with the information and services needed to improve local school practice. Facet 3, Coordinated Resource Base, refers to the extent to which various mechanisms for coordinating resources (e.g., formal referral process, knowledge by resource base personnel of other resources, use of other resource bases) are available and are used. Facet 4, Coordinated Linkages, refers to the extent to which the various linkages an SEA has available and uses are coordinated in order to provide all necessary resources to improve local school practice. Facet 5, Available Linkages, Products, and Services, refers to the resources that an SEA is able to provide; included are such variables as the specific contents of information packages (e.g., abstracts, citations, microfiche) and types of linker services (e.g., resource finder, process helper, solution giver) available. Facet 6, Institutionalization, refers to the extent to which the SEA dissemination system remains after NIE funding of the SEA's capacity building project terminates; the increased use of state funds for dissemination and statements by the chief state school officer supporting dissemination are examples of variables included in Institutionalization. Facet 7, Equal Access/Equal Opportunity, refers to the extent to which the SEA dissemination system provides resources to all educators on all topics; variables include special materials on the handicapped, minorities, and women, and the targeting of dissemination efforts to individuals who work with these categories of students.

Component 5: Outcomes: System Outputs and Impacts, refers to outputs of the SEA's dissemination system and their effects on the improvement of local practice and enhancement of educational equity. Outputs and effects of an SEA's dissemination system can be examined at three levels of the education system--the SEA itself, IEAs where present, and LEAs. In addition, both individuals and organizations can be examined at each level. Thus, six variable clusters comprise the outcome component. Examples of individual impact variables include the uses to which the information or services provided by the system are put, user satisfaction with the information or service, and the extent to which the information obtained from the system is shared with others. At the organizational level, impacts

include whether the existence of the SEA dissemination system leads to internal modifications within an organization. For example, organizational impacts include the designation of individuals to serve as internal linkers within an organization, the appointment of an individual who has the responsibility for coordinating the knowledge utilization activities within an organization, and the requirement that all proposals contain a literature review. The existence of the dissemination system could also modify the relationship between the SEA and other organizations. For example, the SEA dissemination system may result in the perception of the SEA as more service-oriented by local district personnel.

Data Collection

To collect information about variables included in the conceptual framework, instruments were developed which incorporated knowledge gained from both the theoretical literature and practitioners' experiences. The resultant questionnaires and interviews were used with four respondent groups during the September 1978 - January 1979 site visits: (1) SEA capacity building project directors, (2) SEA administrators, (3) information resource base administrators, and (4) NIE personnel involved in the design and management of the SCBP. Table 2.1 lists respondent groups for instruments administered during these site visits.

Capacity building project directors. Three instruments were administered to the 29 project directors or their project managers: (1) Project Director Questionnaire (PDQ), an instrument to collect project director assessments of contextual characteristics, project characteristics, and system characteristics, (2) Capacity Building Indicants (CBI), a survey instrument that collects project director assessments about the status of the SEA Dissemination System (i.e., comprehensive resources, comprehensive linkages, coordinated resources, coordinated linkages, institutionalization, and equal access/equal opportunity); and (3) open-ended interviews administered during the site visits using the Project Director Interview Guide.

SEA administrators. The 29 project directors each nominated a maximum of 10 SEA administrators. From these nominations, NTS selected five respondents within each state: three administrators who functioned near or

Table 2.1

Summary of Respondent Groups and Instruments Administered

Respondent Group (N)	Instruments	Date Administered
SCBP Project Directors (29)	Project Director Questionnaire Project Director Interview Guide Capacity Building Indicants	Fall 1978
SEA Administrators (145)	SEA Administrator's Interview Guide	Fall 1978
Resource Base Administrators (29)	Resource Base Questionnaire	Fall 1978
NIE Project Officers (8)	NIE Project Officer Interview Guide	Winter 1979
NIE Project Monitors (6)	NIE Project Monitor Interview Guide	Winter 1979

at the same management level as the project director and two administrators who functioned at somewhat higher levels than the project director. Each selected respondent was administered an eight-item structured interview guide that sought information about SEA organizational context and climate.

Information resource base administrators. This sample consisted of persons identified by the 29 project directors as the individuals most directly responsible for the information resource bases used by the projects. Each was asked to verify or explain their project director's answers to seven questions in the PDQ about the project's information resource base.

NIE program officers and project monitors. Open-ended interviews were administered to eight NIE program officers (i.e., those involved with overall management of the Program) and six project monitors (i.e., those whose SCBP responsibilities involve only monitoring one or more SCBP projects) regarding the orientation, influence, and expectations of the Program and their perceptions of the Federal role in the operation of the capacity building projects. Respondents included both current and former personnel.

In addition to obtaining information from the four respondent groups, the NTS study team reviewed a variety of documents. For each capacity building project included in the study, the NTS team conducted a file review of all available first- and second-year proposals and quarterly reports. In addition, the study team reviewed previously-prepared reports (i.e., 1976 State Reports, 1977 State Abstracts, 1978 State Abstracts) which describe individual capacity building projects. The NTS study team also reviewed NIE program announcements and available grant negotiation documentation. Finally, the NTS study team collected and utilized statistical data regarding SEA and state contextual characteristics from appropriate sources (e.g., National Center for Educational Statistics). Thus, the data presented in this report include both quantitative data and qualitative data.[2.12] The qualitative data are based on the

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2.12 For a more extensive discussion of the costs and benefits of integrating quantitive and qualitative methods in one study, the reader is referred to Madey, Doren L., "The Evaluator's Perspective: Evaluating the State Capacity Building Program," Durham, N.C.: NTS Research Corporation, March 1978.

perceptions of NIE program staff, state project directors, and the NTS study team. The quantitative data are based on statistical information about the projects and their contexts. Table 2.2 summarizes the data sources used in preparing the Interim Report.

Scope and Limitations of the Evaluation

When evaluating the effects of a program, a study should compare a system, or capacity, before the project existed to the effects of the project after a particular point in time. The NTS study to evaluate the SCBP was funded approximately one and a half years after the Cohort I projects were in operation; therefore, there is a limited amount of base-line data available. The study primarily describes the amount of capacity developed, but at this point, that capacity cannot be attributed solely to the Program.

In most educational research studies, the sample size is quite large, since the unit of analysis may be such items as the test scores of individual children or the LEAs in a state. In this particular study, however, the state is the unit of analysis, and the 29 project states represent half of a finite population of all the states and territories of the United States. A sample size of 29 states does not allow for a great deal of sophisticated, parametric data analysis and diminishes the chances of reaching statistical significance. Therefore, in judging the meaningfulness of relationships between variables, "educational" (or practical) significance as well as statistical significance is considered.

As in any evaluation of an on-going program, unintended internal or external events may affect some study findings. For example, a reorganization within NIE coincided with the data collection period; therefore, it is possible that some of the findings concerning the role of NIE in the development process and the relationships between NIE and the projects may have been influenced by the uncertainties which result from any reorganization. In addition, changes have occurred with the NIE staff who supervised both the SCBP and also the evaluation; associated changes in program emphases have occurred even though the program announcements have not changed since the Program's inception.

Table 2.2 Summary of Data Collection Methods, Description, and Data Sources

METHOD	DESCRIPTION	DATA SOURCE
Project Director Questionnaire (PDQ)	A 39-item questionnaire that collects information about NIE/SEA interactions, contextual, project and SEA dissemination system characteristics.	29 state capacity building project directors
Capacity Building Indicants (CBI)	A survey instrument that collects assessments about the status of the SEA dissemination system.	29 state capacity building project directors
Project Director Interview Guide (PDIG)	A 17-item instrument that collects information about NIE/SEA interactions, contextual, project and SEA dissemination system characteristics.	29 state capacity building project directors
NIE Program Personnel Interviews	Interviews with NIE program personnel.	14 NIE Program Personnel
Capacity Building Project Document Review	File review of funded capacity building grant applications and continuation proposals using document review protocol.	32 source documents: Cohort I (9x2=18) Cohort II (14x1=14)
Case Materials	Review of descriptive reports previously prepared by NTS Research Corporation.	3 source documents: 1976 State Reports (n=9) 1977 State Abstracts (n=21) 1978 State Abstracts (n=29)
NIE Program Document Review	File review of NIE program announcements and available grant negotiation documents.	10 source documents
Statistical Data	Collection of appropriate statistical data regarding state and SEA contextual characteristics.	National Center for Educational Statistics (NCES) and Council of Chief State School Officer (CCSSO) statistical information.

III
INTERIM FINDINGS

This section summarizes data collected from twenty-nine capacity building projects in the first phase of this study. The evaluation framework presented in the preceding section provides a heuristic device for organizing the findings. Findings are presented first within each of the framework components and then across components.

Findings Within Components

Findings relative to each of the following components will be discussed in turn: (1) Contextual Characteristics, (2) NIE Program Characteristics, (3) Project Characteristics, and (4) Facets of an SEA Dissemination System. The fourth component, Facets of an SEA Dissemination System, presents scales which summarize and describe dissemination activities and is a major focus of this report. We do not discuss the fifth component of the conceptual framework, Outcomes, since this is the focus of the evaluation activities in the next year.

Component 1: Contextual Characteristics

State Characteristics

Size, Population and School Enrollment. The twenty-nine states appear to constitute a good representative sample of the country as a whole with respect to geographic size, gross population, and population density. Among the states participating in the Program are the three largest states, the six smallest states, and some medium-sized states. A similar spread is represented in terms of gross population and population density; included are the two states with the largest population and several states with low populations. Similar diversity is demonstrated by the school enrollment figures of the twenty-nine states.

Regional Units. Just as the country is divided into regional units for the provision of most federally-sponsored services, many states have regional offices or intermediate units for the delivery of some educational

services. All but one of the capacity building states have such units although their structure differs from state to state.[3.1] These intermediate units frequently provide the link between the SEA and LEA and are used by twenty of the capacity building projects.

SEA Characteristics

The twenty-nine SEAs were characterized as to their organizational structure, organizational characteristics, previous dissemination efforts, and availability of information resources prior to initiation of the capacity building project.

Organizational Structure. The variables under structure were concerned with the method of selection of the chief state school officer (CSSO) and with the number of SEA professionals. In eleven of the twenty-nine states the CSSO is elected; in the other eighteen states, the CSSO is appointed. The total number of professional staff within SEAs with capacity building projects ranges from 40 to over 3,000. Although the average number of professionals in these SEAs is slightly less than 600, only nine SEAs had more than 600 professionals.

Organizational Characteristics. Five variables subsumed under organizational characteristics were: 1) reason SEA applied for a capacity building grant, 2) perceived SEA innovativeness, 3) perceived SEA flexibility, 4) perceived SEA decision-making strategy and 5) influence on education improvement by various types of educational agencies.

An important SEA organizational characteristic is why the SEA applied for a capacity building grant. Reasons for applying for funds can either be problem-solving (e.g., enhance existing dissemination efforts, project would fit in with existing plan, project would fill an existing need), opportunistic (e.g., monies are available, provide an opportunity to try a new area), or mixed (i.e., combination of opportunistic and problem-solving reasons).

3.1 For a complete description of intermediate units, see Madey, D.L., et al., 1978 State Abstracts with An Analysis Across the States, Durham, N.C., NTS Research Corporation, March 1979, pp. 12-19.

Table 3.1 summarizes, by cohort, project directors' assessments of why their respective SEAs applied for capacity building grants.

Table 3.1

Reasons for Applying for Capacity Building Grant Summarized by Cohort

	Capacity Building States			
Reason	Cohort I (N=9)	Cohort II (N=14)	Cohort III (N=6)	Total (N=29)
Opportunistic	2	4	2	8
Mixed	2	4	3	9
Problem-solving	5	6	1	12

Only eight project directors reported that their SEAs applied for capacity building grants for solely opportunistic reasons; the remaining twenty-one project directors reported at least one problem-solving reason for their SEAs' applying for the grant.

Sixteen of the project directors indicated that the SEA was innovative in that it would be likely to promote or explore new methods or programs, especially if proof existed as to the effectiveness of the method or program. The SEA was perceived as being moderately flexible in implementing new programs (or changing existing programs) by seventeen of the project directors, while four perceived the SEA as rigid and eight perceived the SEA as flexible.

SEA divisional/operational decision making was perceived by the project directors as taking place primarily within two configurations: twenty-two felt that most decisions were made by intermediate level administrators with a variation in the input from lower staff, while seven felt that most decisions were made by top-level administrators with varying degrees of input from lower staff.

With respect to the amount of influence to initiate significant educational improvements in the schools, twenty-two of the project directors judged the LEA influence to be extensive; ten of the project directors judged the SEA influence to be extensive. Of the twenty project directors that judged the influence of intermediate units, six perceived their influence to be limited, eight perceived it to be moderate, and six perceived it to be extensive.

Prior dissemination efforts. Dissemination activities may be categorized as general (e.g., capacity building) or specific (e.g., related to subject-specific programs). Prior SEA participation in general dissemination capacity building activities is presented in Table 3.2. Tabulated activities include the original Pilot State Dissemination Study, the development of Information-Linkage Variation Models (the second phase of the Pilot Study), the Nine State Study of Dissemination, the Interstate Project on Dissemination (IPOD) and the Dissemination Analysis Group (DAG). In all, 16 of the 29 capacity building states in the three cohorts (15 of the 23 in the first two cohorts) had been involved in at least one of these efforts.

Table 3.2

Previous Involvement in General Dissemination Capacity Building Efforts

	Capacity Building States				
Previous Dissemination Effort	Cohort I (N=9)	Cohort II (N=14)	Cohort III (N=6)	Three Cohort Total (N=29)	Total N's In Effort
Pilot State Dissemination Study	1	1	1	3	3
Information-Linkage Variation Models	1	4	0	5	7
Nine State Study of Dissemination	3	3	0	6	9
Interstate Project on Dissemination (IPOD)	4	2	0	6	7
Dissemination Analysis Group (DAG)	1	2	0	3	3
Non-Duplicative Count Totals	7	8	1	16	29
Percentage of Projects in Cohort	77.8	37.1	16.7	55.2	100.0%

Availability of resources. Figure 3.1 indicates resources project directors indicated were available to the SEA prior to project start-up. Each succeeding cohort of projects entered the SCBP with a larger number of resources. Most commonly available resources prior to capacity building grant award were ERIC files and Abstracts of Instructional and Research Materials (AIM/ARM) in Vocational and Technical Education. Other commonly available resources were SEA products, Dissertation Abstracts, Exceptional Child Education Resources (ECER), Psychological Abstracts, and listings/descriptions of Federal and state-funded innovative programs. A majority

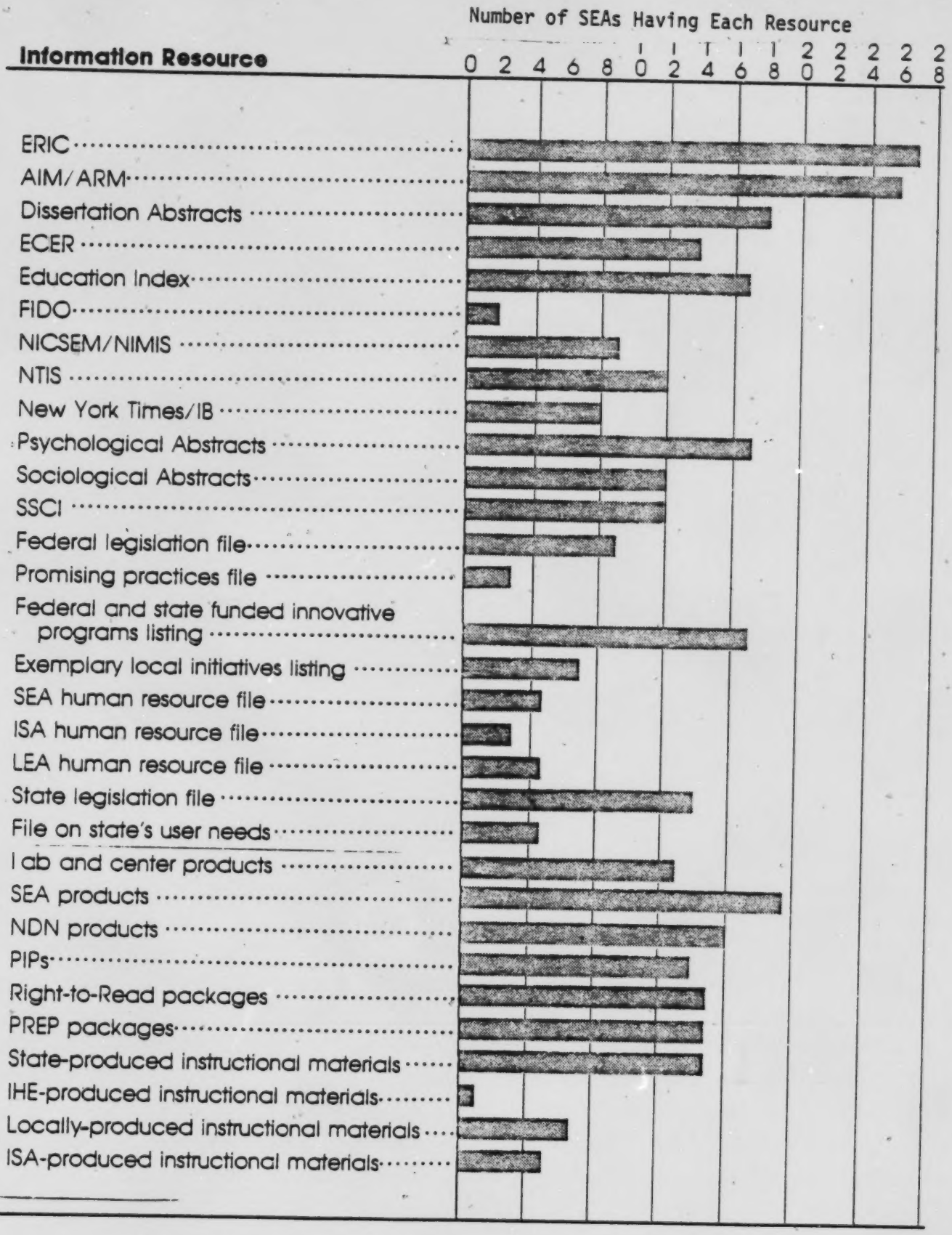

Figure 3.1 Number of SEAs Having Each Resource Available Prior to Project Start-up

of the commonly available resources were federally-supported, and therefore relatively inexpensive for SEAs to obtain. In contrast, those resources which were least available were more costly to obtain or develop; such resources included instructional materials developed by institutions of higher education, Fugitive Information Data Organizer (FIDO), promising practice files, and intermediate unit human resource files.

Component 2: NIE Program Characteristics

The second component of the conceptual framework deals with NIE Program characteristics, that is, the SCBP as conceived and implemented by NIE. Included within this component are: 1) Program goals, 2) Program emphases, 3) project monitor roles, and 4) project funding policies.

Program Goals

The primary goal of the capacity building effort is the development of a comprehensive and generalized dissemination capacity by the SEAs. In order to develop a comprehensive capacity, projects were encouraged to develop capacity in three areas: information resources, linkages, and leadership/management. Generalized capacity meant the ability to provide access to all information resources for all educators. NIE has continually emphasized these goals and the program announcements have remained constant since the Program's inception.

In developing the State Capacity Building Program, NIE realized that SEAs differ widely. Thus, the program announcement lacked specificity regarding the objectives, activities, and timelines so that SEAs could tailor their projects to their own needs. NIE's encouragement of diversity was successful: projects are using different means to achieve the same end result (i.e., the development of a comprehensive and generalized SEA dissemination system).[3.2]

3.2 For a complete description of each of the projects see Madey, D.L., et. al., 1978 State Abstracts With An Analysis Across the States, Durham, N.C.: NTS Research Corporation, March, 1979.

Program Emphases

Although the Program goals have remained constant throughout the life of the Program, there appears to have been a change in Program emphasis away from an "information system" bias to more concern with linkage and coordination issues. This change parallels the historical development of Federal dissemination efforts which focused first on print-based resources, second on personalized linkages, and finally on coordination issues. No doubt this change in emphasis was caused, at least in part, by NIE's reorganization. As a result of this reorganization the SCBP was moved from the unit which contained ERIC to the Regional Programs unit which includes a variety of service-oriented programs (e.g., the SCBP, the Research and Development Exchange, the Research and Development Utilization Program).

Project Monitor Role

Project monitors are a key link between NIE and the projects. They are the NIE individuals who should have the greatest amount of contact with the projects, be the most knowledgeable about the projects, and be able to provide the projects with interpretation of NIE policy.

Even though project monitoring is an important function, the State Capacity Building Program has never had a full-time monitoring staff. Monitors had to be "borrowed" from other programs (usually ERIC) and typically spent only 10 to 25% of their time on SCBP activities. Moreover, none of the monitors had SEA experience and only two had LEA administrative experience. In addition, the monitors had only a general knowledge of the Program and did not have the time to obtain in-depth knowledge of their own projects.

Until recently, monitor training was informal and took place at staff meetings. Since the NIE reorganization, however, training has been given to monitors through a multipart orientation that begins an with a presentation of the conceptual framework for the Program and concludes with presentations by two capacity building projects.

Project monitors tend to see their role as essentially restricted to monitoring receipt of deliverables and helping their assigned projects

adhere to their proposals and the "letter and spirit of the grants announcement." Other important functions might include assisting project directors in solving problems related to NIE administration and finance requirements, providing a sounding board for project directors' ideas or a shoulder for project directors' own problems, and reading reports and providing "constructive" comments when appropriate. One monitor function, that of providing technical assistance, is downplayed, but provided to some extent. Project directors, on the other hand, would like to have the NIE project monitors provide more technical assistance as well as more interpretation of Program policy.

The frequency of contacts between monitors and project directors varies by project and monitor. Project directors' reports of contacts fall roughly into three patterns. The first pattern involves about six contacts a year beyond formal reports, and the contacts are initiated with equal frequency by both parties. The topics range widely and contacts are fairly informal. About half the project directors conform to this pattern. The second pattern involves two or three contacts a year beyond formal report submission. These contacts tend to be initiated by the project directors and relate to project changes; hence, they tend to be more formal. About one-third of the projects conform to this pattern. The third pattern applies to about one-sixth of the projects and is characterized by virtually no contact beyond report submissions and continuation negotiations.

Project Funding Policies. According to the program announcements, capacity building grants were to be of one year duration, potentially renewable over a three-to-five year period. Initial NIE grant awards were to average $100,000 with "some SEA contribution, in funds or in kind, included from the beginning."[3.3] Continuation awards were to be based upon need, project performance, and availability of funds. State plans were "to provide for the gradual increase of state support throughout the project period with full state assumption of all costs at the conclusion of the three-to-five year period.[3.4] Pending availability of funds, NIE planned to provide support in the form of capacity building grants to all qualified and interested states.

3.3 National Institute of Education, Program Announcement: State Dissemination Grants Program, FY 78, p. 14.

3.4 Part 1460.5(a), State Dissemination Regulations for the Grants Program published in the Federal Register on June 16, 1975.

During the period FY 75-78, NIE has awarded seventy-three new or continuation capacity building grants to the twenty-nine states included in this report. An examination of project grants and other funds indicates the average initial award has been about $99,440; the range of initial awards has been from $47,200 to $135,900; of the initial awards for the twenty-nine projects in this study, one was over $125,000, seven were between $110,000 and $125,000, fourteen fell in the $90,000 to $110,000 range, two were between $75,000 and 90,000, and five were below $75,000.

Table 3.3 presents grant award data by fiscal year, separating new awards from continuation awards. These data suggest two interesting findings: (1) overall, the amount of new awards have declined somewhat across fiscal years and dramatically so if the impact of inflation is considered, and (2) continuation award levels have fluctuated across time. The range of both continuation and new awards has been fairly wide in each of the fiscal years. No new awards, either capacity building or special purpose, were granted in FY 77, but two sets of awards were granted in FY 78.

Table 3.3
Capacity Building Grant Awards by Fiscal Year*

	Fiscal Year			
	FY 75	FY 76	FY 77	FY 78
New Grants				
Number of states	9	14	0	6
Average award	100,151	103,428	-	88,843
Minimum award	74,998	47,160	-	68,800
Maximum award	119,991	135,953	-	115,000
Continuation Grants				
Number of states	0	6	19	19
Average award	-	104,850	92,327	96,575
Minimum award	-	86,738	57,250	67,250
Maximum award	-	128,603	124,928	141,911
No-cost extensions	-	3	4	4

*Includes only the 29 states in this study.

Available data on SEA contributions, in funds or in kind, are inadequate for generalization. Based on an examination of proposal budgets, however, most projects have included some form of SEA contribution from the beginning, and most proposed increasing state support throughout the project period. Data available from twelve projects indicate, however, that projects may not be increasing their state support beyond initial levels.

The funding histories of the states participating in the Program, therefore, appear to some degree to be inconsistent with the policies and intentions of the program announcements in which SEAs were expected to provide for progressively more support of the projects. This is not to say that the distribution of funds has been unwarranted by circumstances within the states or within projects; it suggests, however, that the apparent discrepancies between intention and implementation may have implications for institutionalization of the dissemination system, which was the programmatic intent.

Component 3: Project Characteristics

Included within the project characteristics component are variables that describe planning, project emphases, project setting, and clients to be served. Project funding, in relation to NIE funding policies, was discussed in the previous section.

Planning

Projects utilize a variety of mechanisms to enhance their abilities to describe, assess, and control their activities, including documentation, use of advisory groups, provision of training, formal evaluation procedures, and need sensing.

Documentation. Many projects reported having documentation of a project rationale and/or conceptual framework, and a comprehensive project plan and/or an annual report; however, this documentation was usually included in the original and continuing project proposals and is seldom available as a stand-alone document.

Advisory groups. Fourteen projects have active advisory groups, seven projects do not have an advisory group, and one project has a formal advisory group that has not met. In the seven other projects, the project directors report their advisory groups have not contributed substantially. Several projects have both internal (to the SEA) and external advisory groups.

Training. Training is provided in three general areas: leadership/management, linkage and resources. Leadership/management training has focused on project directors and project managers, though other project staff (i.e., linkers, SEA staff, and intermediate unit staff) also have received such training. Training in linkage is given most frequently to personnel at the project, SEA, intermediate unit, and LEA levels. Various audiences have received training in the area of information resources including project staff such as retrieval specialists and linkers, other SEA personnel, intermediate unit staff, LEA administrators, and local library personnel.

Evaluation. Some type of formal evaluation has occurred in all but one of the capacity building projects. All but five of the projects have collected evaluation data about project processes (i.e., formative evaluation). At least half the projects have evaluated their resource bases and the satisfaction clients express for the services received. Linkages and utilization are evaluated less frequently.

Needs-sensing. While information on client needs is available to all projects in some form, sixteen of the twenty-nine projects either employ their own formal system of identifying, analyzing, and using client needs or else utilize the results of their agency's formal needs assessment. As a result of such a needs assessment, a project may decide to focus some of its project activities (e.g., prepackaging materials) on an established priority (e.g., competency-based education), or an entire project may be associated with an established priority (e.g., local educational improvement). The prevailing attitude among those projects that do not employ a formal needs-sensing mechanism is that the mechanism is built into the project's process of providing services, since such services are designed to respond directly to client requests for information.

Both formal and informal needs-sensing activities are also used to contribute to the development of a project's information resource base. More than one-third of the projects currently conduct needs-sensing activities with clients in the field prior to receipt of actual requests and utilize this information for resource base development. More than half of the projects use analyses of client requests for resource base development. Other sources of information utilized by projects for resource base development include linkage agent priorities, management priorities of the SEA, resources of similar projects, and national trends.

Project Emphases

Indicants of individual project emphases were derived through analyses of the project objectives and project plans. In addition, this information was used to describe the modal project developmental pattern.

First-year objectives. The most common leadership/management first-year objectives across all cohorts were promotion of project awareness and coordination of existing dissemination activities within the SEA and, in some instances, within the state. In the area of information resources, the most frequently proposed objectives/activities were development of methods for indexing/accessing files and development of promising practices files. Regarding linkages, the most frequently proposed objective was the training of linkage agents. As a client-area objective, the identification of user needs was most frequently proposed.

Table 3.4 summarizes the first-year project objectives for the 29 projects by cohort. The table reveals numerous cohort differences in project objectives. For example, Cohort III projects place more emphasis than Cohorts I and II on evaluating satisfaction with information resources, identifying existing dissemination efforts, developing human resources files, providing technical assistance to clients, and training resource base staff. Cohort III also placed more emphasis than Cohort II on the development of promising practices files, while Cohort II placed more emphasis on that objective than did Cohort I. Cohort I proposed the development of indexing/accession methods more frequently than either Cohort II or Cohort III, and Cohorts I and II proposed the development of linkage mechanisms more frequently than Cohort III.

Table 3.4

Differences in First-Year Project Objectives by Project Cohort

First-Year Objectives	Percentage of Projects Mentioning Objective		
	Cohort I (N=9)	Cohort II (N=14)	Cohort III (N=6)
Leadership/Management			
Coordination of existing dissemination activities	56%	79%	100%
Evaluation of satisfaction with resources provided by the project and/or resource base	22	29	67
Information Resources			
Development of a promising practices file	56	29	83
Development of a human resources file	22	14	50
Development of an SEA and/or state resource guide	0	36	33
Training resource base staff	22	21	50
Developing or implementing methods for indexing and accessing resources	78	43	33
Linkage			
Development of new linkage systems	33	57	0
Training linkers	67	79	100
Providing technical assistance to local education agencies	11	7	50
Clients			
Training clients in methods of effectively utilizing resources	0	29	33

Second-year objectives. Objectives for the second-year of operation were available only for the first two cohorts of projects as the third cohort was just completing its first year. Second-year objectives are summarized in Table 3.5. Cohort I showed a higher frequency than Cohort II in proposing the evaluation of resource use, identifying promising practices and target client groups, and expanding their client bases. Cohort II proposed linkage agent training, human resources file development, expansion of resource bases, development of resource guides, and formative evaluation of project processes more frequently than did Cohort I projects.

Modal development pattern. A review of project plans and accomplishments to date reveals that the projects tend to evidence the following modal development pattern:

Year 1 Establish resource base, install on-line computer searching, conduct user needs study, inventory available resources, identify pilot site(s), promote awareness, train SEA linkage agents, develop linkage mechanisms, begin development of a promising practices file, begin to coordinate existing dissemination activities, conduct formative project evaluation.

Year 2 Expand resource base, install on-line computer searching (if not done the previous year), evaluate resource base and revise if necessary, develop resource guide, refine user needs study, add more pilot sites, expand awareness effort, train regional/intermediate unit linkage agents, pilot test linkage mechanism, update/expand promising practices file, continue coordination of dissemination efforts.

Year 3 Expand resource base, establish another resource base, add more pilot sites, train LEA linkage agents, begin development of a human resources file.

Year 4 Add more pilot sites, train additional LEA linkage agents, update/expand human resources file, evaluate and revise linkage mechanisms.

Year 5 Stress total coverage, institutionalization functions.

Project Setting

Four categories are used to describe project placement in the overall SEA organization: the type of unit within which the project is located,

Table 3.5

Differences in Second-Year Project Objectives by Project Cohort

Second-Year Objectives	Percentage of Projects Mentioning Objective	
	Cohort I (N=9)	Cohort II (N=14)
Leadership/Management		
Evaluation of project processes (i.e., formative evaluation)	44%	71%
Evaluation of information resource utilization	33	7
Information Resources		
Identification of promising practices	44	14
Development of a human resources file	11	50
Development of an SEA and/or state resource guide	0	50
Expansion of information resources	33	79
Linkage		
Training linkers	67	93
Clients		
Identification of target clients	44	14
Expansion of the client base	44	14

administrative level of the project within the agency, the type of management arrangement utilized by the project, and project staff size.

Project placement. One difference that clusters capacity building projects is their placement within the SEA by division. Of the 29 projects, seven are located within a research, planning, and/or evaluation (RPE) division, twelve projects are located in service divisions and the other ten projects are located in administrative divisions.

The breakdown of project placement by cohort reveals that the most recently-funded states have a higher proportion of projects located in administrative units than do previously-funded cohorts. While an administrative unit was the least likely placement for a new SCBP project in 1976, it was the most likely placement for a new project in 1978. In addition, when a shift in project placement has occurred within an SEA, the shift has been most frequently from an RPE unit to a service unit. It seems that some capacity building projects begin as research or pilot projects in a RPE unit and are later moved to service units to integrate the project's functions with the agency's ongoing operations.

Administrative level of project. The administrative levels of the capacity building project directors range downward from the second level of administration to the fifth. That is, some project directors report directly to the chief state school officer, while others may have to penetrate as many as three administrative layers to gain access to the chief.

Management arrangements. The management arrangements for the projects include five configurations: (1) full-time project director, (2) part-time project director, (3) full-time project director with full-time manager, (4) part-time project director with full-time manager, and (5) part-time project director and part-time manager. A majority (18/29) of the project directors are part-time; eleven are assisted by full-time managers. Only two states have both a full-time project director and a full-time manager (or full-time co-director). Fourteen of the states have a dual-management arrangement which enables one individual to maintain liaison with high-level SEA officials and facilitate cooperation across organizational lines within the agency, while the other individual manages the daily project activities and assures necessary coordination within the project. There is no real difference between the administrative levels of full-time and part-time project directors.

Project director's length of employment in the SEA and project varies. Individuals have been employed as project directors from a few months to four years; length-of-employment of the project directors within their respective SEAs ranges from one year to 29 years, with a median of five years.

Project director tenure varies as well. Sixteen of the current project directors were also the original project directors; three other project directors were on the original project staff and became project directors after the original project directors resigned; seven project directors were not on the original staff; two other projects are administered by at least their third project director; and one project directorship was vacant at the time of data collection.

Current project director involvement in the development of the original project proposal ranges from major involvement to no involvement. In seventeen of the projects, the current project director was involved in writing the proposal, and in all but six of those projects, the project director wrote a major part of the proposal. In the other eleven capacity building projects, the current project director did not participate in the proposal development.

Project staff size. The size of project staff, including both professional and support staff directly associated with the capacity building project, ranges from a high of 20 to a low of 1.75 full-time equivalents (FTEs). The modal project staff size is 3.5; the average size is approximately 5.5 FTEs. In general, only a portion of the project staff are supported with SCBP monies.[3.5]

Clients to be Served

Projects have been able to define their clientele as they deem appropriate within the broad SCBP guidelines. Present clients are those clients who, by project director definition, currently are receiving project dissemination services; targeted clientele are those clients towards whom

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3.5 Project staff size was defined by each project director and may include individuals who are not paid with SCBP monies; if a more restricted, common definition of size were used, project staff would not vary as widely.

specific project efforts are currently focused. Potential clients are defined narrowly as future planned target client groups, that is, those client groups toward whom specific project efforts will be directed in the future. Figure 3.2 shows the number of projects serving each of these various client groups.

Present clients. Project directors identified an average of six groups of present clients. State education agency staff, excluding the SEA capacity building project staff, were the most frequently indicated present client group. LEA administrators and principals were mentioned as present client groups for capacity building services in a majority of the projects (25 and 22, respectively). Some projects view these clients as "gatekeepers" to successful local school improvement efforts; they believe that serving LEA administrators together with building-level administrators is a key determinant of whether the SEA dissemination system will have an impact at the local level. Other states may serve this group in order to foster LEA-level support for their projects. Project-identified linkage agents were also mentioned as present client groups in twenty-four of the capacity building projects.

Target clients. Twenty-three projects indicated particular efforts currently directed toward specific client groups to stimulate demand; the median number of groups identified was four. Reasons usually given by project directors in the other six projects were reluctance to overextend their ability to provide quality services or, already having reached generalized capacity, no need was present to stimulate client demand.

In more than half of the projects, special efforts are currently directed toward LEA administrators and building-level teachers and administrators. Almost half of the projects also consider other SEA staff and project-identified linkage agents as target groups. Approximately one-third of the projects target efforts toward other building-level staff as well.

Potential clients. Twenty-one projects indicated that future efforts would be directed toward certain client groups. The largest indicated potential client group was building-level teachers, with fourteen projects specifying this group. Building-level administrators, other building-level staff, and LEA administrators were specified as future target groups in twelve projects.

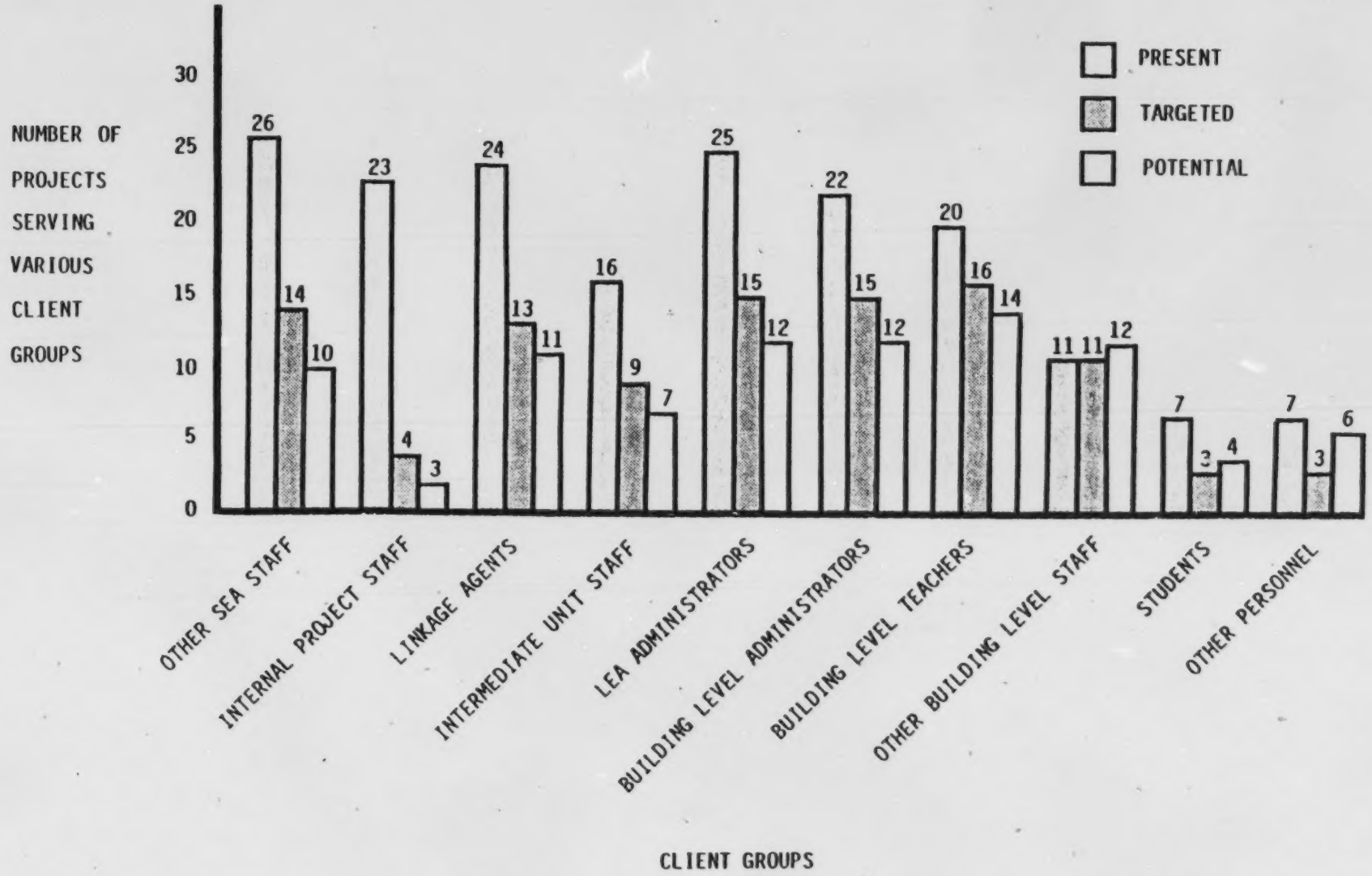


Figure 3.2 Present, Targeted, and Potential Client Groups of Capacity Building Projects

Component 4: Facets of an SEA Dissemination System

The fourth component of the evaluation framework is concerned with the facets of an SEA dissemination system and the interrelationships among them; it is a major focus of this report. The other framework components were measured by discrete variables or clusters of variables; for the fourth component, scales were constructed to describe state dissemination capacity in as concise and meaningful way as possible. Six scales were developed:

- Comprehensive Resource Base
- Coordinated Resource Base
- Comprehensive Linkages
- Coordinated Linkages
- Available Linkages, Products, and Services
- Institutionalization

The items that comprise the six scales were primarily derived from the Capacity Building Indicants (CBI) and selected items from the Project Director Questionnaire (PDQ). Project directors provided data on both instruments. The CBI describes capacity building with respect to the six facets. The facets, which were derived from both the theoretical literature and practioners' assessments of what comprises a "comprehensive and generalized" SEA dissemination system, are as follows: comprehensive resource base, coordinated resource base, comprehensive linkages, coordinated linkages, institutionalization, and equal access/equal opportunity. It was not possible to develop a useful scale for the equal access/equal opportunity facet because of a high degree of homogeneity of responses from all projects relative to that facet (e.g., all the projects responded affirmatively to all the indicants identified). The scaling technique used in this study requires substantial hetereogeneity for a meaningful scale to emerge.

A preliminary inspection of items from the PDQ indicated another scale that might contribute to understanding the building of SEA dissemination capacity. This scale, available linkages, products, and services, is related to the roles of linkers and the delivery of products and services. A more detailed explanation of the procedures used to develop the scales and scores associated with indicants and with states for each scale are

are described in the Appendix.

Each SEA participating in the SCBP is located on the six scales. The location on the scale allows one to assess where each SEA is in terms of the number of activities or products of that particular capacity building behavior. The six scales are described and interpreted below. The figures are interpretive summaries of the scales; the actual scales, called "construct maps," are also included in the Appendix.

In other words, placement on the scale for any particular state does not represent a "better than" or "worse than" relationship with other states. Rather, the placement of the state (or scale score) represents a description of the kinds of materials or structures the state has developed as a part of its dissemination system. The placement of a state on the scale can be interpreted to indicate that most (not necessarily all) of the activities described at its level and below its level are included in the state's dissemination system. The placement on the scale does not rule out the possibility that the state also has some of the elements described above its placement position. The placement is a "best" description of what each state dissemination system contains. After describing each scale, we suggest one paradigm for the future use of these scales.

Comprehensive Resource Base Scale

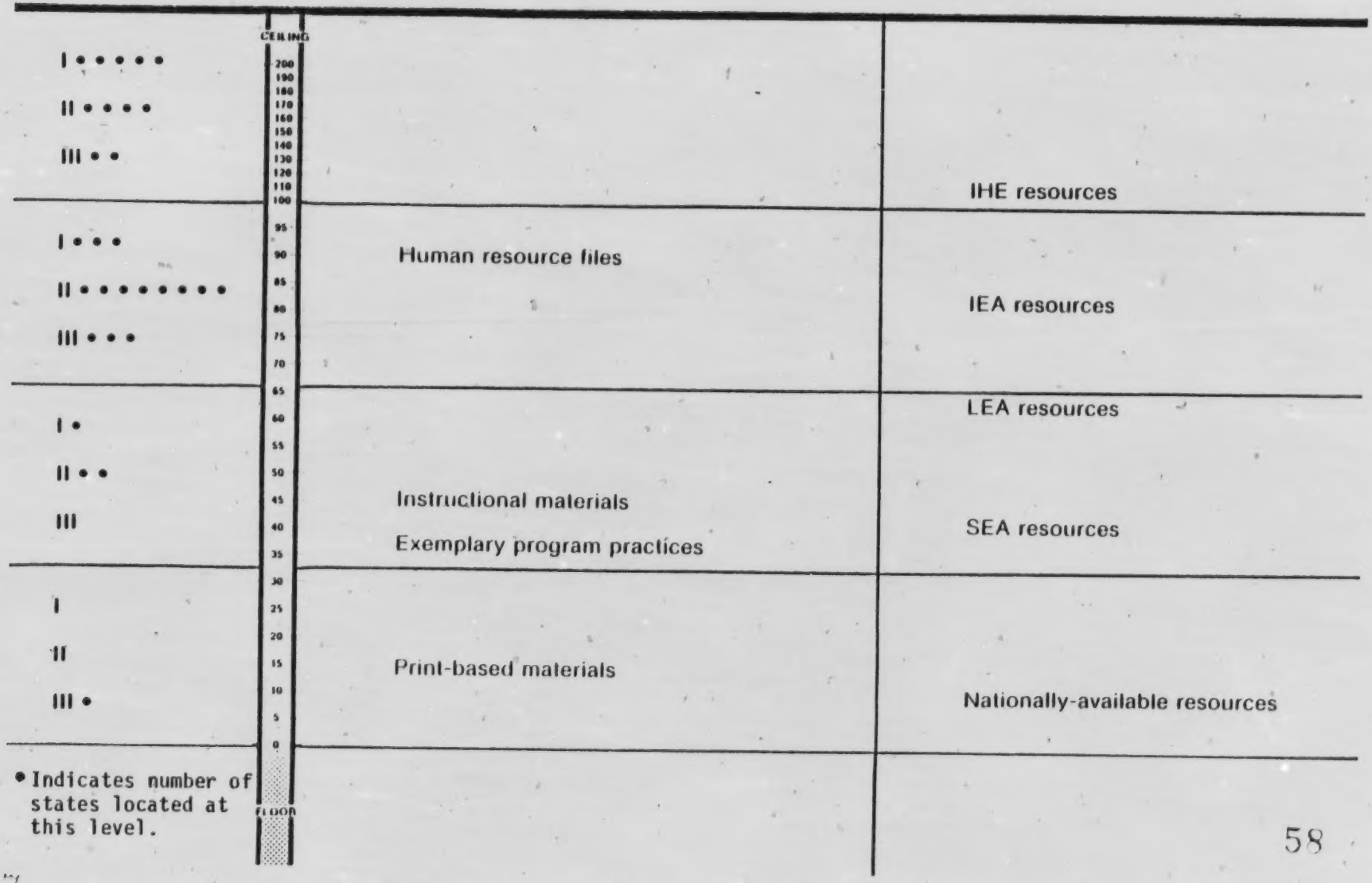
The comprehensive resource base scale (Figure 3.3) describes the pattern of state utilization of the components of a comprehensive resource base. In general, national resources are most often a part of the dissemination system, followed by SEA resources, LEA resources, Intermediate Education Agency (IEA) resources, and finally resources in institutions of higher education (IHEs).

Another apparent pattern in the scale involves the type of materials included in the comprehensive resource base: print-based materials are the most widely used resources; innovative programs, which include Federal and state-funded innovative programs, local exemplary programs, and ultimately a promising practices/programs file, and instructional materials are the next numerous; and human resource files are typically the type of resource least often included in an SEA's comprehensive resource base.

All projects have access to two resources: Education Resource

Figure 3.3

COMPREHENSIVE RESOURCE BASE



Information Center (ERIC) and National Information Center for Special Education Materials/National Instruction Materials System (NICSEM/NIMIS). These resources are federally-supported and thus are relatively easy for states to access. Together ERIC and NICSEM/NIMIS materials provide a base upon which a comprehensive set of resources can be developed.

Other resource sources typically available are Psychological Abstracts, Sociological Abstracts, National Diffusion Network (NDN) products and SEA products, Social Science Citation Index, Dissertation Abstracts, and Federal and state-funded resources.

States in the middle range of the scale additionally have collections of exemplary program practices and instructional materials. These include: SEA-produced instructional materials, lab and center products, local exemplary programs, LEA-produced instructional materials, and sometimes such files as Education Index, National Technical Information Service and Project Information Packages (PIPs).

For states at the upper range of the scale, an SEA human resource file is included in the comprehensive resource base, as well as an LEA file and an IEA file. IEA-produced and IHE-produced instructional materials, the New York Times Information Bank and Putting Research into Education Practice (PREP) products are also included.

Low scores on the comprehensive resource base scale represent a state that includes ERIC and NICSEM/NIMIS and other nationally-available print-based materials in its resource base, as well as some SEA products. High scores on the comprehensive resource base scale represent the development of a comprehensive resource base which contains both information files (documents, data, information on programs, practices, services) and human resource files.

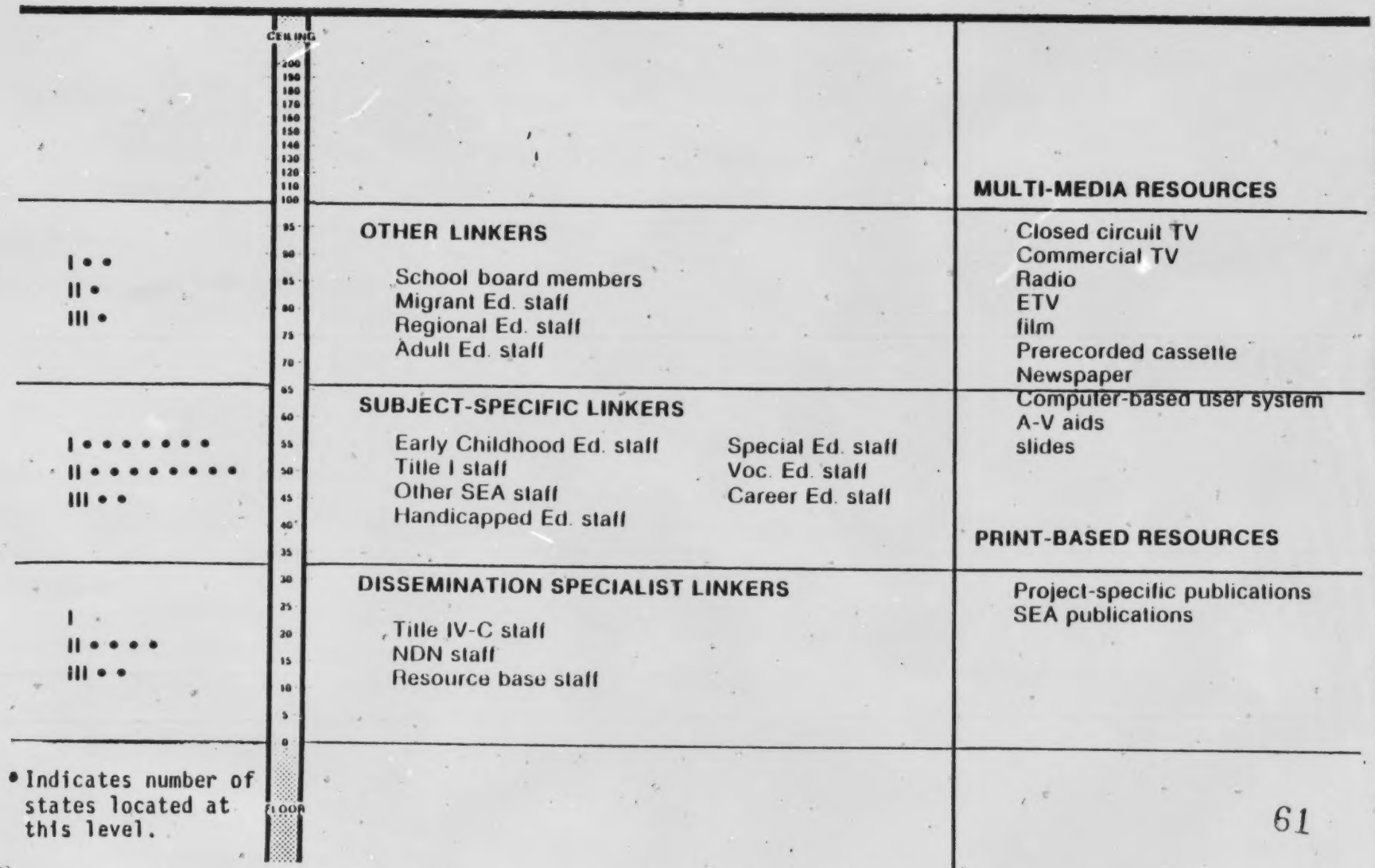
Comprehensive Linkages Scale

The comprehensive linkages scale (Figure 3.4) describes the linkage component of an SEA dissemination system. Projects develop two types of linkages: personal and media linkages. In general, the SCBP projects emphasize personal linkers rather than media.

For states at the lower range of the scale, the primary set of linkers included in the component are dissemination specialist linkers, including resource base staff, National Diffusion Network (NDN) staff, and Title IV-C staff.

Figure 3.4

COMPREHENSIVE LINKAGES



• Indicates number of states located at this level.

For states at the middle range of the scale, subject-specific linkers, including career education staff, special education staff, state library system staff, vocational education staff, handicapped education staff, Title I staff, and early childhood education staff comprise a second cluster of linkers. In those states which have even more linkers, adult education staff, regional education center staff, and migrant education staff are examples of the final groups which characterize the SEA dissemination system.

Media linkages are descriptive of those states in the middle range of the scale. Print-based resources, such as SEA publications and project-specific publications, increase the comprehensiveness of the linkage component.

For states at the upper range of the scale, multi-media resources such as newspapers, prerecorded cassettes, films, educational television, radio, commercial television, and closed-circuit television are part of the dissemination system in addition to the other named elements.

In summary, therefore, a low score on the comprehensive linkages scale represents a state with a linkage component comprised only of dissemination specialist linkers and print-based resources. A high score on the scale represents a state with a wide variety of personal and media linkage services available to facilitate client access, acceptance, and utilization of resources.

Coordinated Resource Base Scale

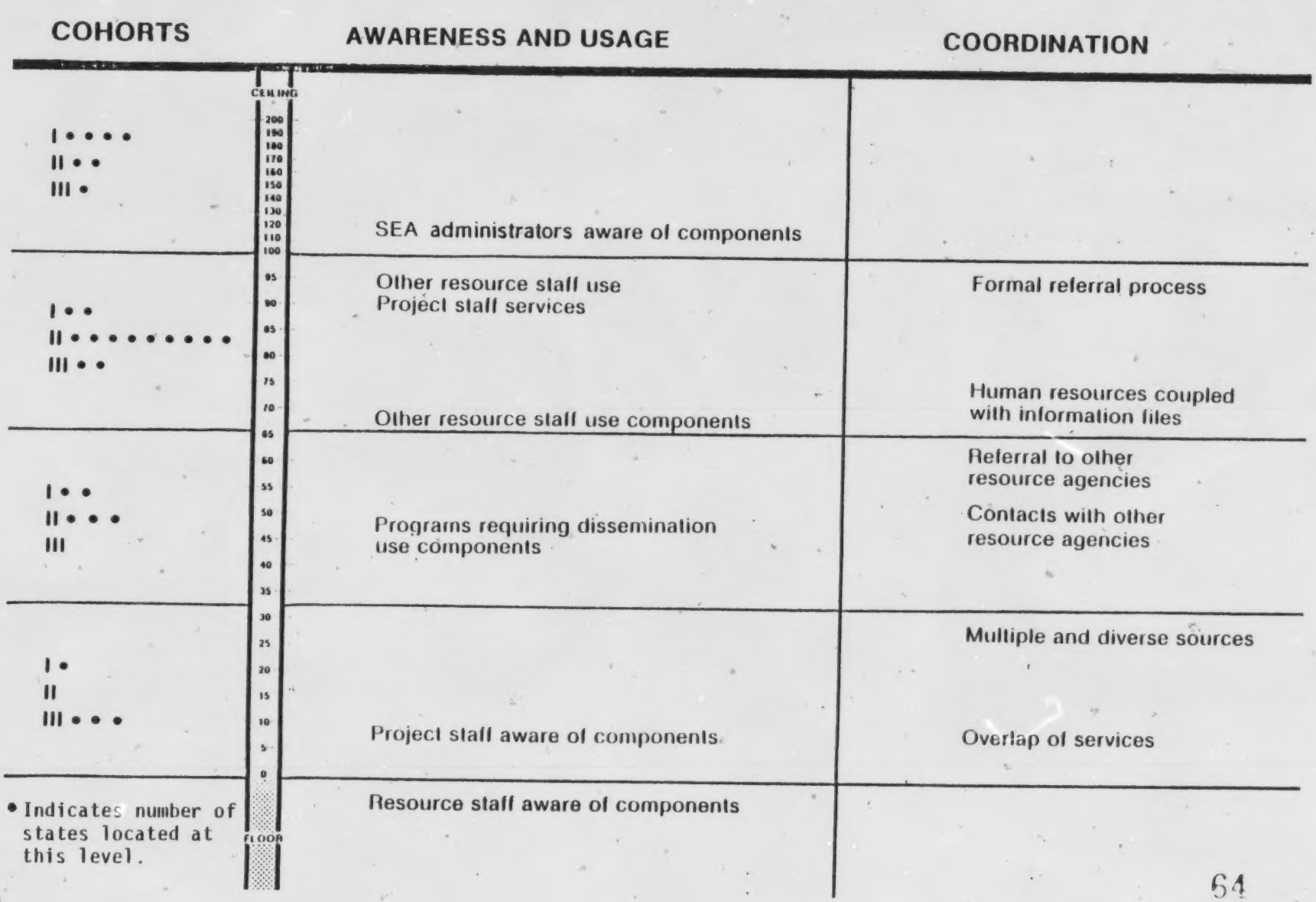
The coordinated resource base scale describes a broadening of awareness and then usage of the components of a resource base, first by those closest to the resource base and then by other resource agencies and SEA administrators (Figure 3.5). In addition, the coordination of the resource base with other resources available to the SEAs and LEAs is described.

All of the states reported that the resource base staff is aware of the components of the resource base, so that this appears to be the baseline for describing a coordinated resource base.

For states at the lower range of the scale, the project staff have become aware of the components of the resource base. The services to clients from the different available information resources tend to overlap and duplicate each other's efforts; operationally, a client could access a variety of sources for the same information.

Figure 3.5

COORDINATED RESOURCES



For states in the middle range of the scale, the SEA and the other resource agencies are aware of the project's staff and the services the project can provide. The project expands its services and broadens the variety of materials included in the response package, with the emphasis on multiple and diverse sources, as opposed to single source responses. The project couples its responses with referrals to other sources of information, and contacts or refers the clients to other resource agencies.

For states at the upper range of the scale, the compendium of resources, the project staff, and the available services are utilized by other resource agencies. Such SEAs couple human resources with existing information files in responding to client requests, and a formal referral process is in place to avoid duplication of effort.

A low score on the coordinated resource base scale represents a state which is at the beginning phase of developing awareness of the components of the resource base and has an overlap of services. A high score on the scale represents a state in which there is an awareness of and usage of the components of the resource base by other resource agencies within the SEA, and a state which has formalized its referral procedures in order to serve clients more efficiently.

Coordinated Linkages Scale

The coordinated linkages scale (Figure 3.6) describes a broadening of awareness and usage of linkages by project staff and other personal linkage agents. In addition, the scale describes the coordination of linkages and the training of personal linkage agents.

For states at the lower range of the scale, project staff and then personal linkage agents are aware of the available linkages. In addition, project staff recognize some of the potential problems that may occur when developing a coordinated linkage system.

For states at the middle range of the scale, personal linkage agents are aware of the services that the project offers, and the project staff use the available linkages. Training programs are developed and implemented, and many of the problems associated with a developing system are addressed. In responding to client requests, personal linkage agents are used in addition to information files.

For states at the upper end of the scale, personal linkage agents use the compendium of resources and the compendium of linkages.

A low score on the coordinated linkages scale represents a state that is developing awareness of services by project staff and personal linkers. A high score on the scale represents utilization of resources and linkages by personal linkage agents and the coordination of services.

Available Linkages, Products, and Services Scale

The available linkages, products, and services scale (Figure 3.7) describes linker roles that range from developing good working relationships and providing information, to influencing and intervening, managing conflict, and developing the client's capacity to make decisions among alternatives. The scale includes such categories as the varying functions performed by linkers, the types of services that linkers provide, project directors' ratings of linker skills, and the types of materials contained in the information packages.

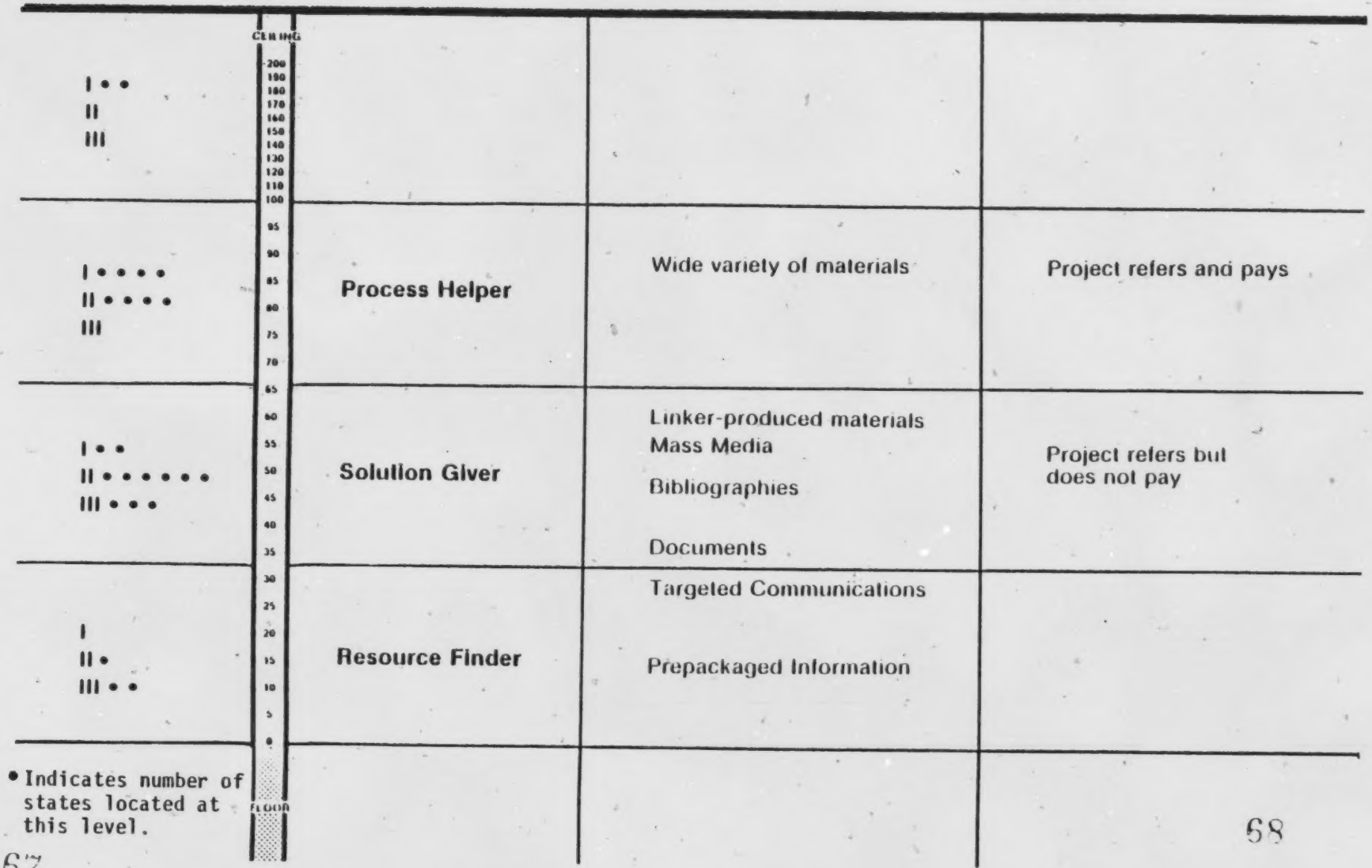
All project directors rate their linkers as able to develop satisfactory relations with their clients; this appears to be the necessary prerequisite for building a repertoire of services and products.

For states at the lower range of the scale, linkers are characterized as "resource finders" (Butler and Paisley, 1978), where they primarily disseminate information, bring new practices to the attention of their clients, and exchange information between clients and appropriate resources. Project directors rate linkers as being able to understand and analyze a wide variety of problems, present information to clients who do not have a technical background, and help clients in planning and implementing programs.

For states in the middle range of the scale, linkers are characterized as "solution givers" (Butler and Paisley, 1978), where they intervene to assess the needs of their clients, monitor ideas, influence their clients by promoting new concepts and ideas, and plan for future client needs. Linkers at this stage seem more involved in working with their clients, in implementing new methods, providing technical assistance, producing the actual materials and procedures, and developing client competencies.

Figure 3.7

AVAILABLE LINKAGES, PRODUCTS AND SERVICES



For states at the upper range of the scale, linkers appear to assume the role of "process helper" (Butler and Paisley, 1978). Such linkers encourage clients to make decisions between alternative courses of action.

Available products include the types of materials provided in the information package. For states at the lower range of the scale, prepackaged information is provided and procedures to assure the quality of products and services are utilized to provide feedback for modifications in the SEA dissemination system and for long-range planning. For states at the middle range, available products include targeted communications, mass media, and packages containing documents and bibliographies which are manually searched. The project usually will refer clients to other services, but will not pay for these. For states at the upper range of the scale, the information packages include a larger variety of materials, including audio-visual materials, and the project pays for the services to which it refers clients.

A low score on the available linkages, products, and services scale represents a state in which linkers perform a "resource finder" role and primarily use prepackaged information. A high score on the scale represents a state in which linkers perform a "process helper" role, use a wide variety of materials, and refer clients to other sources.

Institutionalization Scale

The institutionalization scale (Figure 3.8) empirically assesses three hypothesized stages in the life of a capacity building project:

- Adoption, when the project becomes identifiable by the SEA;
- Implementation, when the project operationalizes its plan to build and refine the existing SEA dissemination system; and
- Institutionalization, when the project loses its "special project" status and becomes an integral part of the SEA dissemination system.

States at the lower range of the scale are in the adoption stage, and are developing efforts to create awareness of the project.[3.6] Interest in the project is stimulated by efforts to gain project support within the

3.6 This discussion follows the phases in the adoption process proposed by Rogers, 1971.

Figure 3.8

INSTITUTIONALIZATION

COHORTS	STAGES	PLANNING	FUNDING
I • • • • II • III	CEILING 200 190 180 170 160 150 140 130 120 110 100	State legislative action	
I • • II • • • • • • • III • • •	95 90 85 80 75 70 INSTITUTIONALIZATION	State Board goal Superintendent's annual report Considered in SEA planning	Agency-line item Agency-wide budgeting Other federal and state funding
I • • II • • • • • • • • III • • •	65 60 55 50 45 40 35 IMPLEMENTATION	Agency-wide planning for dissemination Project helps others plan	Provision for state funding Provision for increased state support
I • II III	30 25 20 15 10 5 0 ADOPTION TRIAL EVALUATION INTEREST		
• Indicates number of states located at this level.	FLOOR AWARENESS		

SEA and by efforts to increase demand for project services. An evaluation of project services follows: typically in the evaluation phase, project staff assist other programs in their preparation of dissemination plans and SEA personnel begin to gain an understanding of the project's functions. The trial phase is marked by the provision for gradual increase in state support for the project. Adoption typically occurs with the location of the project on the SEA organization chart.

States at the middle range of the scale are in the implementation stage, the operationalization and refinement of the adopted dissemination system. This phase is reflected in the planning for a comprehensive and coordinated dissemination system. As the activities on the scale indicate, the project involves others in its own planning process, continues with the project's representation in executive team sessions, and culminates in the consideration of dissemination in agencywide planning.

States at the upper range of the scale are in the institutionalization stage. Indicants of this stage are the provision for state funding of project activities after the grant ends, the contribution of other Federal and state funds to a coordinated dissemination function, agencywide budgeting for dissemination, and an agency line item specific to dissemination. The passage of state legislation dealing specifically with dissemination is the apex of the institutionalization scale.

A low score on the institutionalization scale represents a state in one of the early adoption phases. A higher score on the scale represents a state in which the project has lost its "special project" status and become an integral part of the SEA dissemination system. Rather than speak of a "capacity building project," individuals in the SEA are likely to refer to a coordinated "dissemination function."

A Possible Interpretive Framework: The Developmental Paradigm

The scales which have been presented were based upon data collected at one point in time, i.e., data are from a cross-sectional field collection effort. Because of this we may speak of what projects and dissemination systems are like, not how they grow or develop over time. However, the

data were collected from projects and SEAs at different points (years) in the State Capacity Building Program. As a consequence, one can consider the possibility that these projects are in different phases (stages) in developing their dissemination capacity. If this is a viable assumption, then one possible interpretation of the data presented through the scales is that they may suggest stages in, or a process of, development. Such an interpretation is relatively easy to apply to the scales; but such an interpretation is fraught also with serious problems. Consider for example, the comprehensive resource base scale. It is intuitively appealing to consider the development of the resource base as proceeding through the acquisition of nationally-available data bases (e.g. ERIC), moving through the stages of the collection of the materials which are more difficult to track down and obtain (e.g. LEA-produced instructional materials), to the development of materials which the project may have to develop on its own (e.g., a human resources file). Similarly, one can interpret the linkage system as going through a series of stages of increasing complexity--resource finder, solution giver, process helper. However, there are real problems in making such conclusions on the basis of these cross-sectional data. The development may not follow that pattern over time; the actual pattern of behavior should be examined across time periods. Projects and dissemination systems have different needs to fill based upon a variety of contextual factors within which they are located. In some cases the scales would seem to indicate that "more" is better. But "more" may not be better for all situations and therefore the patterns may be different or, indeed, reversals may even occur if there are patterns of development.

In short, we believe that the scales lend themselves to a developmental paradigm. Such a paradigm would be helpful to the policy maker and to the scientific and practice communities. But more examination and data collection need to be done. We intend to conduct such activities in the year ahead and to use the scales for the generation of hypotheses for further testing.

Interrelationships Among Facet Scales

Pearson product-moment correlations were performed to determine the degree of relationship among the facet scales (Table 3.6). The resulting correlations matrix revealed two clusters of relationships.

The first cluster of relationships was between scales that reflected the basic elements for linking the dissemination system: comprehensive resources, comprehensive linkages, coordinated resources, and coordinated linkages. The first three were all significantly related to each other. Coordinated linkages was related to coordinated resources, but not related to comprehensive resources or comprehensive linkages. These relationships suggest that activities (facets) which are taken to broaden the comprehensiveness of the resources and linkages, and the awareness and usage (i.e., coordination of resources) tend to occur together and in a similar pattern across the states in our study. The fact that the coordination of linkages does not occur in conjunction with the other facets has at least two possible interpretations. First, coordination of linkages is not perceived as important an activity as the other facets, but probably will develop as the dissemination system becomes more institutionalized. Second, as the correlations indicate, coordination of linkages is not related to comprehensiveness but to the coordination of the services which are delivered through the linkages, i.e., the coordination of resources. Conceptually, the coordinated resource base scale is comprised of two themes. One theme is the broadening of the awareness and usage of the resource base by others; it is this theme that seems to relate to the broadening of the comprehensiveness of resources and of linkages. The second theme focuses on developing a referral system in order to coordinate its services with other resource agencies; this would seem to relate to the coordinating of linkages.

The second cluster represented significant relationships between institutionalization and the remaining five facets, namely those that measure implementation activities. These relationships appear to define the basis for institutionalization. To the degree that a project has developed and coordinated its resources and linkages, and has refined its delivery system, that project will then be in a position to institutionalize the system.

Table 3.6

Pearson Product-Moment Intercorrelations of Facet Scores

Facets	Comprehensive Resources	Comprehensive Linkages	Coordinated Resources	Coordinated Linkages	Linkages, Products, and Services	Institution-alization
Comprehensive Resources	(.78)[a]					
Comprehensive Linkages	.44*	(.85)				
Coordinated Resources	.41*	.44**	(.71)			
Coordinated Linkages	-.02	.21	.44*	(.85)		
Linkages, Products, and Services	.29	.25	.16	.02	(.84)	
Institution-alization	.25	.41*	.48**	.46*	.49*	(.88)

[a]Average scale reliabilities, reported in parentheses, were obtained using KR_{20}.

*$p < .05$

**$p < .01$

Findings Between Components in Conceptual Framework

Findings between components of the conceptual framework (Figure 2.2) are discussed by presenting preliminary answers to four questions:

(1) How do SEA and state characteristics influence project characteristics?

(2) How do SEA and state characteristics influence implementation of the SEA dissemination system?

(3) How does NIE management of the State Capacity Building Program relate to operations at the project level?

(4) How do project characteristics influence implementation of the of the SEA dissemination system?

Each question will be addressed in turn.

How do SEA and State Characteristics Influence Project Characteristics?

The first relationship between components to be examined is the influence of SEA and state characteristics on project characteristics. The conceptual framework posits that there are elements of the state and SEA which may be of importance in the design and development of the SEA capacity building projects. The analyses undertaken to date have suggested two major themes with respect to this question.

First, state size, as indicated by school enrollment, is related to the emphases that the projects have taken. The larger the state the more emphasis is placed on building and coordinating resources, on emphasizing leadership activities, but less emphasis on building and coordinating linkages. For example, a project in one large state has focused attention on the development of special files to augment its resource base, while another project in a small state is providing direct services to schools. This difference in emphasis appears realistic given the amount of funds available (i.e., it may be more difficult and costly for projects in large states to provide direct linkages to schools). Therefore, large states are more likely to focus on developing the resource base and leadership components. Small states, on the other hand, are more likely to emphasize linkage arrangements.

The second theme that has appeared is the use of existing structures for the provision of linkage services. Only two of the 29 projects have established linkage configurations de novo. The other 27 projects

attempted to enhance existing linkage structures or adapt prior organizational contexts to fulfill linkage functions. For example, of these 27 projects, eighteen have provided linkage training to non-project personnel, and nine of the projects have attempted to coordinate personnel who were already serving linkage functions.

How do SEA and State Characteristics Influence Implementation of the SEA Dissemination System?

Two subsets of SEA and state characteristics were found to be related to the implementation of a comprehensive and coordinated SEA dissemination system: structural factors and experience with other dissemination programs.

Structural Factors

Involvement of intermediate level SEA staff in decision-making regarding the dissemination system and in determining SEA policy is positively associated with comprehensive linkages and comprehensive resources. The intermediate-level SEA staff are close to the actual operations of the system. We can assume that they are more able and committed to ensuring that dissemination system goals are achieved if they are involved in determining the goals.

SEAs which are able to develop both a more comprehensive and coordinated resource base, a more fully-developed delivery system, and a dissemination system which more likely will be institutionalized are also perceived of as innovative and flexible by their staff in their approach to change. Conversely, when the SEA is viewed as characterized by bureaucratization and concern for bureaucratic activity such as record keeping, the coordination of the resource base is not highly developed. In these bureaucratized situations, the delivery of services is less well-organized and the dissemination system is less likely to become institutionalized.

These findings, which assess the relationship of two different, though related, sets of variables to the development of a dissemination system, have significant implications for future analyses. Such bureaucratic

rigidity may keep organizations from changing established procedures or merging different operational structures for greater efficiency. Knowledge of the impact of such rigidity upon change will assist both policy makers and program managers in considering actions which could increase the chances for the successful development of a dissemination system in such situations.

Involvement in Other Dissemination Activities

It was assumed that if a state had been, or is currently, involved in other programs which foster the development of general dissemination activities, then that state would have both structures, resources, and experiences which could assist it in the development of an SEA dissemination system. Two groups of dissemination-related projects were examined: those projects which were designed to enhance dissemination activities (e.g., Pilot State Program, RDU, and RDx) and those projects which were legislatively-mandated to encourage dissemination of information from particular content-specific programs (e.g., Title IV, Vocational Education, Bilingual Education Programs). The results of our analysis suggested that if an SEA was (or is) involved in a project designed to enhance general dissemination activities, then that SEA was more likely to have comprehensive resources, coordinated resources, and coordinated linkages. However, if an SEA is involved in projects designed to develop dissemination activities from a content-specific program, that SEA is less likely to have coordinated resources, coordinated linkages, and comprehensive linkages.

These findings have important implications for understanding the significance of contextual factors upon the development of a dissemination system. First, past experience in general dissemination building programs seems to assist states in more readily achieving some of the important goals of a dissemination system (i.e., experience is helpful). Second, the negative relationship found between specific-content programs and system development goals may indicate the existence of "turf" battles which states find hard to resolve. That is, when a particular program develops its own approach to dissemination, it is less willing to be drawn into a cooperative structure which it might perceive as weakening its authority.

These data do suggest that within the states studied, the varying agencies and programs have not been able to overcome the distinctions between programs and to achieve that stage of cooperation necessary to develop the coordination and comprehensiveness required for the dissemination system.

It is interesting to note that while all of the programs used in this analysis are Federally-sponsored, the dissemination building projects were all NIE-sponsored (or eventually NIE-sponsored as in the Pilot States). This does not suggest that there are no "turf" battles between different programs sponsored by the same agency. It may suggest, however, that the single identity of the sponsoring agency did allow a continuity of purpose and an ease of administration which enhanced cooperation.

How does NIE Management of the State Capacity Building Program Relate to Operations at the Project Level?

Three themes emerge when the aspects of NIE management are related to project operations. First, NIE's non-prescriptive approach to the development of an SEA dissemination system has permitted a great deal of diversity on the part of projects in their activities. In all aspects of building an SEA dissemination system, there is variety in the activities undertaken by the projects. For example, some states are emphasizing resource base activities, others linkage activities, and still others leadership/management concerns. In addition, even within one of the aspects there is a great diversity in the specific activities undertaken. For example, with regard to linkage, some projects are training SEA personnel, others are training IEA personnel, and still others are working with LEA personnel.

Second, there is a discrepancy between the monitors themselves and project directors in the perception of the role of project monitor. While project monitors view their role as precluding the provision of direct technical assistance, project directors generally desire more technical assistance from NIE. In addition, the provision of technical assistance is positively related to the development of all facets of an SEA dissemination system. Thus, it appears that NIE should consider encouraging the provision of technical assistance to the projects.

Third, the extent to which project directors appear to interact with NIE personnel (as measured by the project director's time spent meeting

reporting requirements and responding to NIE requests) is positively related to all facets of the development of an SEA dissemination system, especially institutionalization. Project director interaction is manifest in the following activities: 1) preparing quarterly reports; 2) preparing other reports for NIE, 3) reviewing unsolicited materials sent by NIE; 4) responding to questions from NIE about the project; and 5) preparing proposals. Although it is impossible to tell exactly what process is underlying these findings, it appears that each of these activities requires the project directors to step back from day-to-day activities and view the total scope of their projects in light of NIE's goals and policies.

How do Project Characteristics Influence Implementation of the SEA Dissemination System?

Four major themes are embodied in the relationships between the variables measuring SCBP characteristics and the six SEA dissemination system facet scales. Before these relationships can be meaningfully examined, however, it is necessary to control for the effects of inter-project variability with respect to SEA and state contextual characteristics. While contextual characteristics may not be subject to policy manipulation, nonetheless they have substantial influence on project characteristics and on development of the SEA dissemination system. Consequently, it is necessary to try and remove the effects of these variables through statistical procedures so that the relationship between project characteristics and system facets can be examined without concern for the effects of underlying contextual variables which cannot be manipulated.

Six variables were identified as characterizing the contextual domain. These variables were:

- The number of schools in the state
- Herrriott's modernity index
- Wirt's school centralization index
- Election or appointment of the chief state school officer
- Project director perception of SEA flexibility in efforts to implement new programs or make changes in existing programs
- Use of SEA-controlled Federal funds by intermediate units

Using multiple regression techniques, the correlations between the project characteristics variables and the scale scores after the effects of the six contextual variables had been removed were used in this analysis.

The first theme is: the longer a project is in existence, the greater the level of resources and activities in the SEA's dissemination system. It appears that capacity is being built and institutionalization is taking place. Alternatively, this finding could be explained by the fact that Cohort I states may have already had more parts of an SEA dissemination system in place prior to the start of the capacity building project. Unfortunately, because the evaluation was funded after projects were operating, limited baseline data were collected. During the upcoming year, retrospective baseline data will be collected in order to test the rival hypothesis.

A second theme involves the tenure of the project director in the project, as well as the administrative level of the project director. The correlations between the number of years the project director had served and all six of the facet scales were substantial. In order to more accurately assess the relationship between tenure and the dissemination system, effect of years of project existence was controlled statistically. This was done for two reasons: (1) project director tenure would probably be a function of the number of years the project has been in existence, and (2) years of project existence has already been shown to have a substantial correlation with the dissemination system.

After controlling for years of project existence, project director tenure continued to be strongly associated with the comprehensiveness and coordination of the resource base and the coordination of linkages, although the correlations with availability of products and services and institutionalization dropped considerably. If we consider, however, that availability and institutionalization will require more time to develop than the other facets of a dissemination system, then the drop in the correlations between tenure and these two variables after removal of years of project existence is not surprising. The fact that tenure continued to be strongly correlated with three of the facet scales indicates that stability of leadership is strongly associated with the development of the dissemination system.

The administrative level of project leadership also appears to have some relationship with the development of the SEA dissemination system. The closer the project director is to the chief state school officer in the SEA administrative hierarchy, the higher the project scores on comprehensiveness of linkages and institutionalization.

A third theme involves the effect of project placement; i.e., when the project was placed in the SEA structure, was it located in a research, planning, and evaluation unit, an administrative unit, or a service-oriented unit? Projects placed in service-oriented units, rather than in the other two, tended to score higher on the comprehensiveness of linkages. This is not too surprising when we consider that the purpose of service-oriented units is, in fact, to perform dissemination types of services, among other things. On the other hand, placement in an administrative unit rather than the other two showed a negative correlation with availability of products and services. There were no relationships between institutionalization and project placement.

The fourth theme involved the targeting of special groups such as women and minorities by the project. Projects that indicated that such groups were targeted tended to score higher on the comprehensiveness of the resource base, the coordination of the resource base, and institutionalization. Although the reasons for these relationships are not clear and must await further analysis, it is clear that such targeting positively reflects on an NIE goal for the projects, namely equity of access to educational materials.

IV

CONCLUSIONS

Five major conclusions have been drawn based on the interim findings. It should be stressed that these conclusions are tentative and must be reviewed in the light of additional analyses to be performed in the coming year. This section presents and discusses each conclusion.

1. The SCBP appears to be stimulating the development and institutionalization of SEA dissemination systems.

This conclusion appears warranted from the analysis which shows that facets of SEA dissemination systems become more fully developed the longer projects are in the Program. The SCBP seems to be successful generally in its goal of developing comprehensive and generalized SEA dissemination systems for a number of reasons. Advances in the state-of-the-art in information science made information retrieval from large data bases cost efficient; computer-based retrieval systems are now used by all of the SCBP states. SEAs have been moving generally to more of a service-oriented mode in their relationships with LEAs, and dissemination fits well into this emerging SEA mode.

The Program's planners included two design features which appear to be related to SCBP success. First, SEAs were awarded a relatively small amount of Federal funds to stimulate the development of their dissemination systems, and SEAs were expected from the beginning to contribute their own funds to the project. This notion of "buying in" has been frequently shown to be positively related to the institutionalization of innovations. Thus, Federal funds may have provided a catalyst; states could use the Federal funds to initiate activities they could normally not afford. Future analyses will attempt to document SEA uses of these Federal dollars. Second, the Program planners recognized that states and their SEAs differ; thus, they allowed each SEA to build upon its own experiences and strengths and set its own objectives. This flexible approach has permitted, for example, the enhancement or adaptation of existing structures to fulfill linkage functions in some SEAs and the creation of new structures in others.

It is important, however, to note two alternatives to this conclusion. First, all states, including those which have not received capacity building grants, may also have achieved similar degrees of development and

institutionalization of SEA dissemination systems. Second, it is possible that some states may have had a more coordinated and comprehensive SEA dissemination system in place prior to the start of the project; evidence shows that the first two cohorts of states were generally more involved in dissemination activities than other states. These and other alternative explanations will be explored in subsequent evaluation activities.

2. Building capacity for a comprehensive and generalized SEA dissemination system appears to have identifiable patterns of development.

Projects appear to develop their capacity through patterns of activities across each of the facets of an SEA dissemination system. The scales, describing the facets of the implementation of an SEA dissemination system, reflect activities which, when a developmental assumption is made, suggest a pattern of growth to the system.

This finding has more than academic importance. If such identifiable patterns of processes do indeed exist, then knowledge of these patterns can provide useful information to the policy maker and the practitioner. For example, a policy decision could be made to provide external support at critical junctures in the development of these activities, or potential projects could be assessed on the adequacy of their plans in light of these patterns.

It is also important to remember that SCBP efforts may enter these growth processes at different points, depending upon a variety of contextual factors. One implication for further analysis, therefore, is to determine whether different patterns of development characterize SEAs that vary on past experiences in dissemination activities, size, or their flexibility and innovativeness. The reader is specifically cautioned that the scales reflect across-project data at a single time; subsequent collection and analysis of within-project, cross-time data are necessary to substantiate this finding fully.

3. Fragmentation of resources and linkages occur where there is a lack of cooperation for dissemination among federally-funded programs.

The data indicated that, in those states which have a greater number of subject-specific programs with their own dissemination components, a fragmentation of both resources and linkages occurs which inhibits the development of a comprehensive and generalized dissemination system. The finding suggests that the various Federal dissemination programs should work towards more cooperation in dissemination activities. The form this Federal thrust could take might vary; for example, a cooperative relation-

ship could be legislated, or funds could be transferred from one agency to another requiring that certain tasks also be shifted. While we do not suggest what form the Federal actions should take, we do conclude that greater coordination and cooperation would be necessary among Federally-funded programs with dissemination components to achieve the goal of a comprehensive and coordinated state-level dissemination system.

4. Project placement and project leadership influence the development and institutionalization of an SEA dissemination system.

Factors which characterize the project director and the organizational level of the unit in which the project is placed appear to be related to the development of an SEA dissemination system. Project directors' levels of interaction with NIE program personnel and their length of tenure in the position are positively related to all aspects of the development of an SEA dissemination system. The finding on tenure, which implies that continuity of the project director is important, stresses the need for the careful selection and retention of project directors. Additionally, placement of the project in a position closer to the top management of the SEA tends to support the development and institutionalization of the dissemination system. Such a placement provides the project with high levels of visibility in the hierarchy and implies the SEA support of the project's goals and a commitment to the project's success. Placement high on the organization chart is particularly important if the project is to enhance coordination with the dissemination activities of other programs.

5. The role definition and activities of SCBP project monitors limit potential effectiveness.

The results of this study point to a number of limitations in the role and activities of the SCBP project monitors. SCBP project monitors were assigned only part-time to the projects; only 10% to 25% of a project monitor's time was spent on capacity building activities. Project monitors received little, if any training, and none of the project monitors had SEA experience. Most importantly there were differences in perspectives regarding whether project monitors should provide direct technical assistance to their projects. Project directors generally desired more direct technical assistance and reported that when such technical assistance was provided it improved the projects.

These results suggest a number of changes in NIE management, some of which have been instituted recently. Training regarding the relevant literature, philosophy, goals, and constraints under which the Program

operates should be given to all project monitors; NIE has recently begun to institute a training program for SCBP project monitors. Project monitors could be assigned more time to the Program. Although time assignments have not been changed, the SCBP is now part of the Regional Program within the Dissemination and Improvement of Practice unit of NIE. Thus, monitors now are involved in other service delivery projects (e.g., the R&D Exchange) usually within the same geographic region. This change may assist the project monitors in better understanding not only the projects they monitor but also the regional context within which the projects operate. Further, additional or alternative mechanisms for providing direct technical assistance that do not rely upon project monitors could be developed by NIE (e.g., contracted program support services).

Summary

The SCBP appears to foster the development and institutionalization of SEA dissemination systems. We identified factors which facilitate the process (e.g., project placement close to top SEA management) and factors which impede it (e.g., limited coordination across Federally-funded programs with dissemination components). Our analysis leads us to suggest that, as with the use of any innovation, fairly well-defined stages may be associated with the development and institutionalization of SEA dissemination systems. However, to date we have only been able to deal with this hypothesis in a preliminary way because we examined capacity building projects at only one point in time. When the next phase of the study is completed in April 1980, we will have additional evidence about the process of building and institutionalizing SEA dissemination capacity, and we will be able to present more definitive findings and to explore the implications of the findings for Federal and state policymakers.

Appendix

Development of Scales to Measure Facets of an SEA Dissemination System

This appendix describes the procedures used to scale each facet of the SEA dissemination system and to assign scale scores for each indicant on the scale and for each state. Each scale was developed using a three step process. In the first step, indicants were selected and grouped into scales on the basis of their content. In the second step, the empirical inter-indicant relationships were used to "prune" the scale of those indicants that did not seem to be measuring the same facet as the other indicants in the scale. In the third and final step, scale values were generated for indicants and states.

The scales would serve the following purposes:

- Confirm that indicants grouped together on the basis of their content were, in fact, measuring the same thing
- Discriminate among states in their development
- Parsimoniously summarize a large body of data
- Serve as a measuring device, by assigning facet scores to each state for use in further analyses
- Eliminate indicants that were not related to the other indicants in a facet

For each facet, the scale would be comprised of a set of indicants that all measure that facet and also measure only that facet. As a consequence, the indicants would be ordered on the scale and thus reflect the degree to which a facet has been implemented by a state. For example, the scale measuring the comprehensiveness of the resource base would have a number of resources arranged on the scale, with the ordering of the resources directly related to how many states possess each of those resources. A state with high resource base comprehensiveness would be assigned a scale score higher than the scale scores of resources that most states possess, but lower than the scale scores of resources that only very few states possess.

Step One: Content Analysis. In the first step, a content analysis of the available indicants was conducted to determine a set of indicants which appeared to roughly measure the same facet. The criteria for inclusion in this step were fairly liberal, in order not to eliminate an indicant that might, in fact, be strongly related to other indicants, even when this was not immediately obvious from the indicant's content.

The indicants that comprise the facets of an SEA Dissemination System were primarily derived from the Capacity Building Indicants (CBI) and selected indicants from the Project Director Questionnaire (PDQ). The CBI items were originally constructed to describe capacity building with respect to the six facets suggested by dissemination theory and applied by practitioners. These six facets include: comprehensive resource base, coordinated resource base, comprehensive linkages, coordinated linkages, institutionalization, and equal access/equal opportunity. A preliminary inspection of indicants from the PDQ indicated a seventh possible facet that might contribute to understanding the building of SEA dissemination capacity. This facet, available linkages, products and services, is related to the roles of linkers and the delivery of products and services.

Step Two: Inter-Indicant Relational Analysis. In the second step, the inter-indicant correlations were used in a reliability analysis to assess the degree to which the indicants in each scale were all measuring the same facet.[A.1] The coefficient alpha (KR_{20}) reliability was computed for the scale, along with statistics indicating the correlation between each indicant in the scale and the total of all of the other indicants, and the reliability of the scale if each indicant was excluded. The last two measures were both indications of the extent to which a particular indicant was measuring the same facet as the other indicants. Indicants which had low indicant-total correlations, or which lowered the

A.1 An initial inspection of the item frequencies showed that for all the indicants comprising the equal access/equal opportunity facet, all the states responded positively. Consequently, this facet could not be scaled, since there were no differences between the indicants or between the states.

average scale reliability were excluded. The remaining indicants were then reanalyzed using the reliability criteria just described. This was necessary because when the indicants had been eliminated, the statistics that related the remaining indicants to the total were altered from the statistics of the previous step. Consequently, an indicant that had not detracted from the scale's reliability in an earlier step might detract from the realibility in subsequent steps and thus need to be excluded. At the same time, the remaining indicants were reinspected with respect to their content. If any indicant presented interpretational problems even though it might be strongly correlated with other indicants in the set, it was eliminated.

Step Three: Scaling Analysis. When the final indicant set was selected for each facet, the third step in the process was to scale the values of both the indicants and the states, and further determine how well an indicant or a state fit the model. For example, for the comprehensive resource scale, the process just described produced a set of indicants all of which appeared to be measuring resource base comprehensiveness and all of which had strong, inter-indicant correlations. In order to place these indicants on a scale of comprehensiveness, and then place the states on this scale of comprehensiveness, a statistical model developed by Rasch (1960) was used. The Rasch model allowed us to examine all of the responses to all of the indicants, and place the indicants and the states on a scale so that the similarities between the observed responses and the predicted responses were as strong as possible. To do this, the proportion of responses (e.g., right/wrong; provide/don't provide) to each indicant was computed and then transformed to calculate the indicant scale value, using the formula:

$$D_i = \text{alog}\left(\frac{1-R_i}{R_i}\right), \quad \text{where } D_i = \text{scale value for indicant } i, \; R_i = \text{response proportion for indicant } i$$

following this step, the proportion of responses for each state was computed and combined with the scale values of the indicants to produce the state's scale value, using the formula.

$$B'_s = B_s + \frac{N \cdot R_s - \Sigma P_i}{SP_i\,(1-P_i),}$$

where B'_s = scale value for state s

B_s = initial estimate of scale value for state s using the formula

$$B_s = \text{alog}\,(R_s)\,\underline{(1-R_s)}$$

R_s = response proportion for state s

N = number of indicants in the scale

P_i = probability of state s responding positively to indicant i using the formula

$$P_i = \frac{e^{B_s - D_i}}{1 + e^{B_s - D_i}}$$

To facilitate interpretation, all the scale values were adjusted so that the lowest indicant on the scale had a value of zero, and the highest indicant had a value of 100. If a state responded positively to all the indicants, the constraints of the model prohibited the placement of the state on the scale. For purposes of later analyses, the state was assigned a value of 200. If a state responded positively to all but a few of the indicants, the model tended to assign a scale value greater than 100 but less than 200 to the state. Given the large number of positive responses, the model would attribute the few negative responses to measurement error, and assign the state a scale value greater than any of the indicants.

The degree to which the objects and indicants fit the scaling model was then assessed through fit statistics. For each of the states, the fit statistic was the proportion of the state's responses that the model correctly predicts were answered affirmatively or negatively. Similarly, the fit statistic for each indicant was the proportion of the indicant's responses that the model correctly predicts. While the fit statistics for the indicants all tended to be high, an assessment of how well the states fit the model was important since the indicants were chosen to have high correlations with one another. If a state did not have a good fit statistic, then it was an indication that the scale did not adequately measure that state's process of building capacity. For example, a project having a poor fit statistic on the comprehensive resource base scale suggested that the project had resources that it would not normally be expected to have and/or did not have resources that it would normally be expected to have. This, in turn, might imply that the resource base development of that project was different from that of other projects.

In the figures that follow (Figures A.1-A.6), construct maps for each of the six facets are shown. Each construct map includes a scale that ranges from 0 to 200, and includes a floor and ceiling zone. The indicants for each facet are plotted to the right of the scale; almost all the items are located between the values of 0 and 100. Occasionally, an indicant falls in the floor zone, which indicates that all the states responded affirmatively to the indicant. The states (represented by state number [A.2] and cohort) are plotted to the left of the scale. The majority of the states are located between the values of 0 and 100. A value between 100 and 200 indicates that the state responded affirmatively to nearly all the indicants; a score of 200 means that the state responded affirmatively to all the indicants.

Each map also includes the following information:

A.2 Each state was assigned a code number by using a table of random numbers.

- Fit statistics that measure how well a particular indicant fit the scale (indicant fit) and how well each state fit the scale (state fit);

- The scale reliability (coefficient alpha) which estimates the internal consistency of the scale; and

- The average indicant reliability, which is the mean inter-item correlation.

The six construct maps were used to develop the scales (Figures 3.3-3.8) presented in the main body of this report.

Figure A.1

COMPREHENSIVE RESOURCE BASE

CONSTRUCT MAP

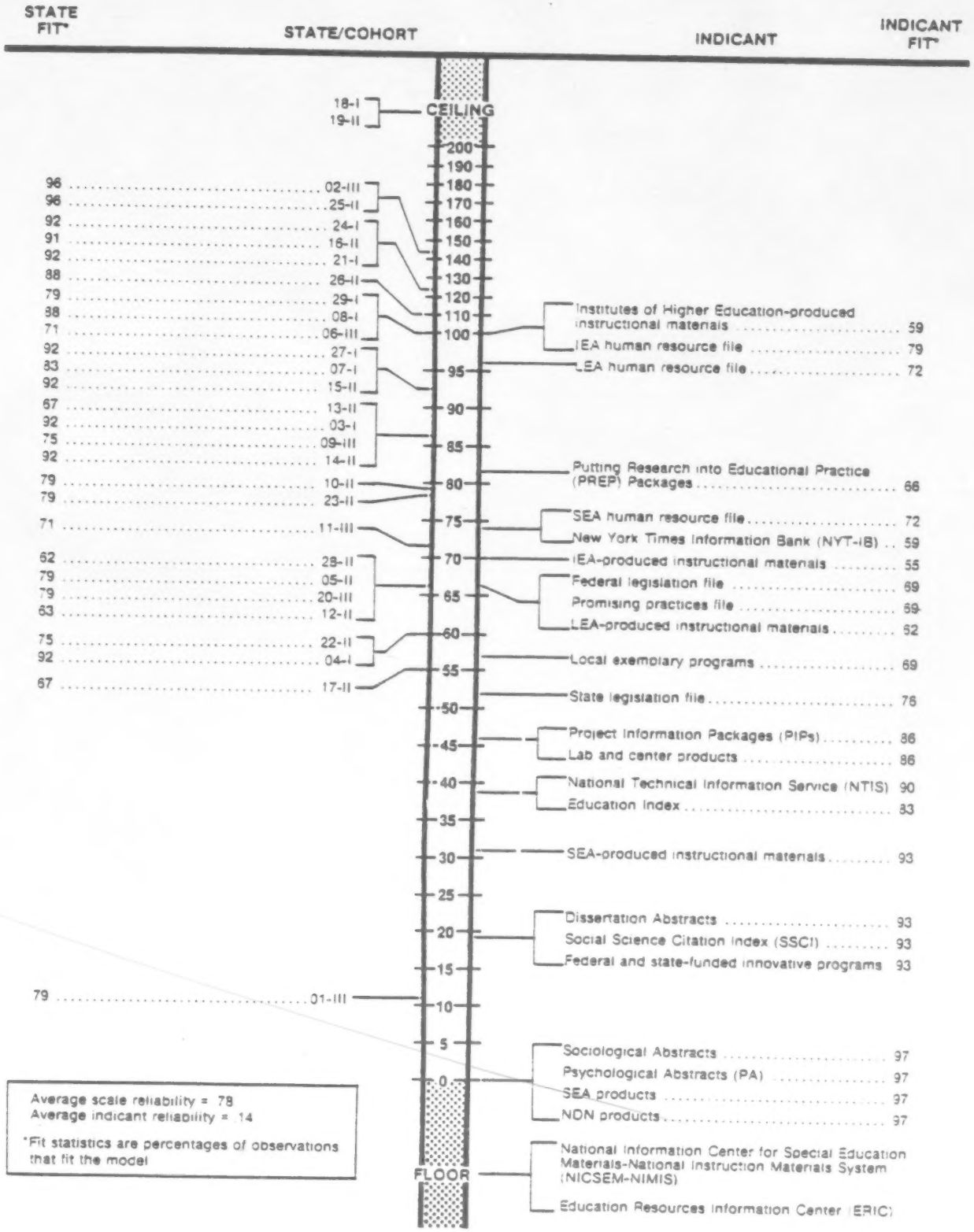
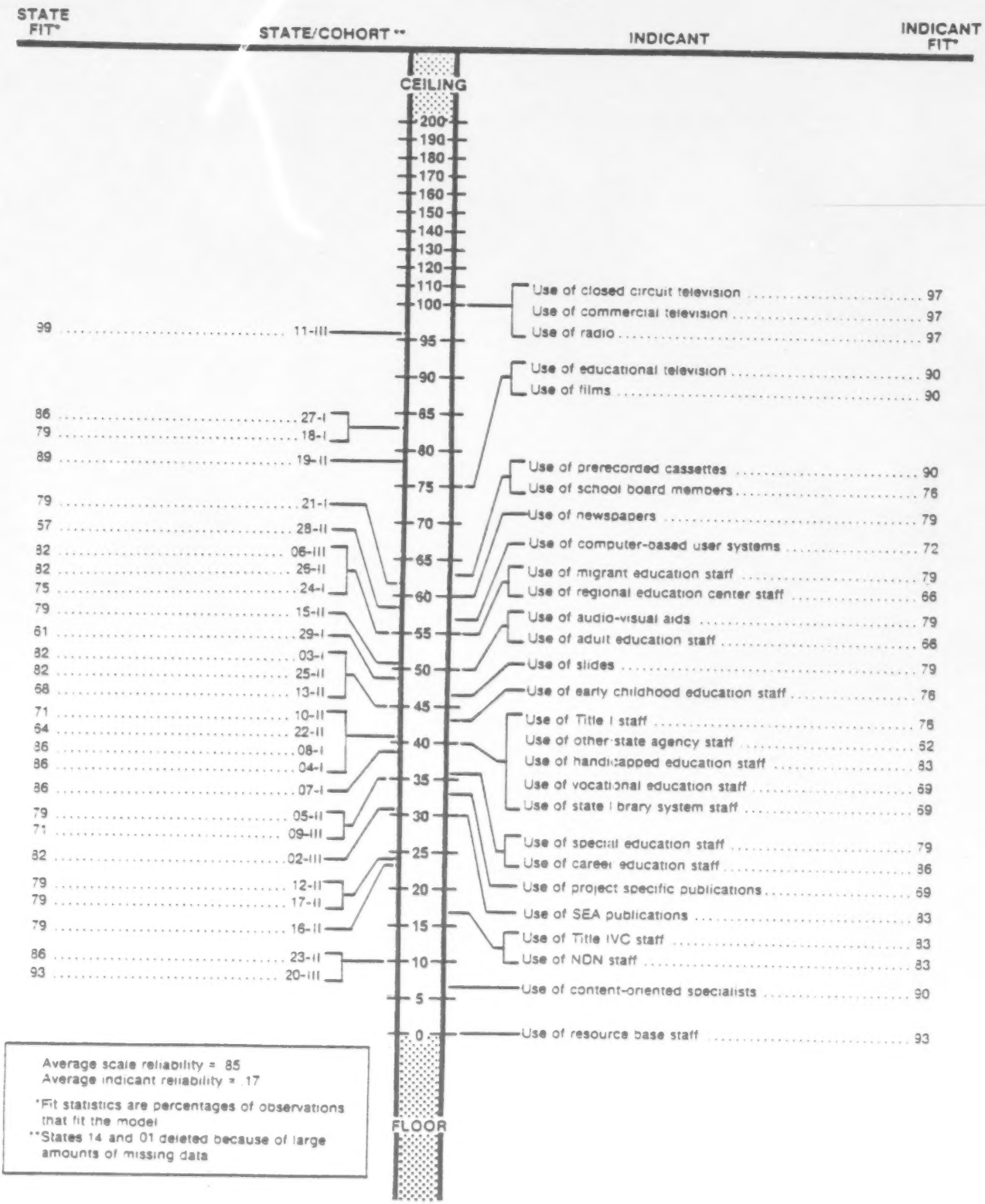


Figure A.2

COMPREHENSIVE LINKAGES
CONSTRUCT MAP



Average scale reliability = .85
Average indicant reliability = .17

*Fit statistics are percentages of observations that fit the model

**States 14 and 01 deleted because of large amounts of missing data

Figure A.3

COORDINATED RESOURCE BASE
CONSTRUCT MAP

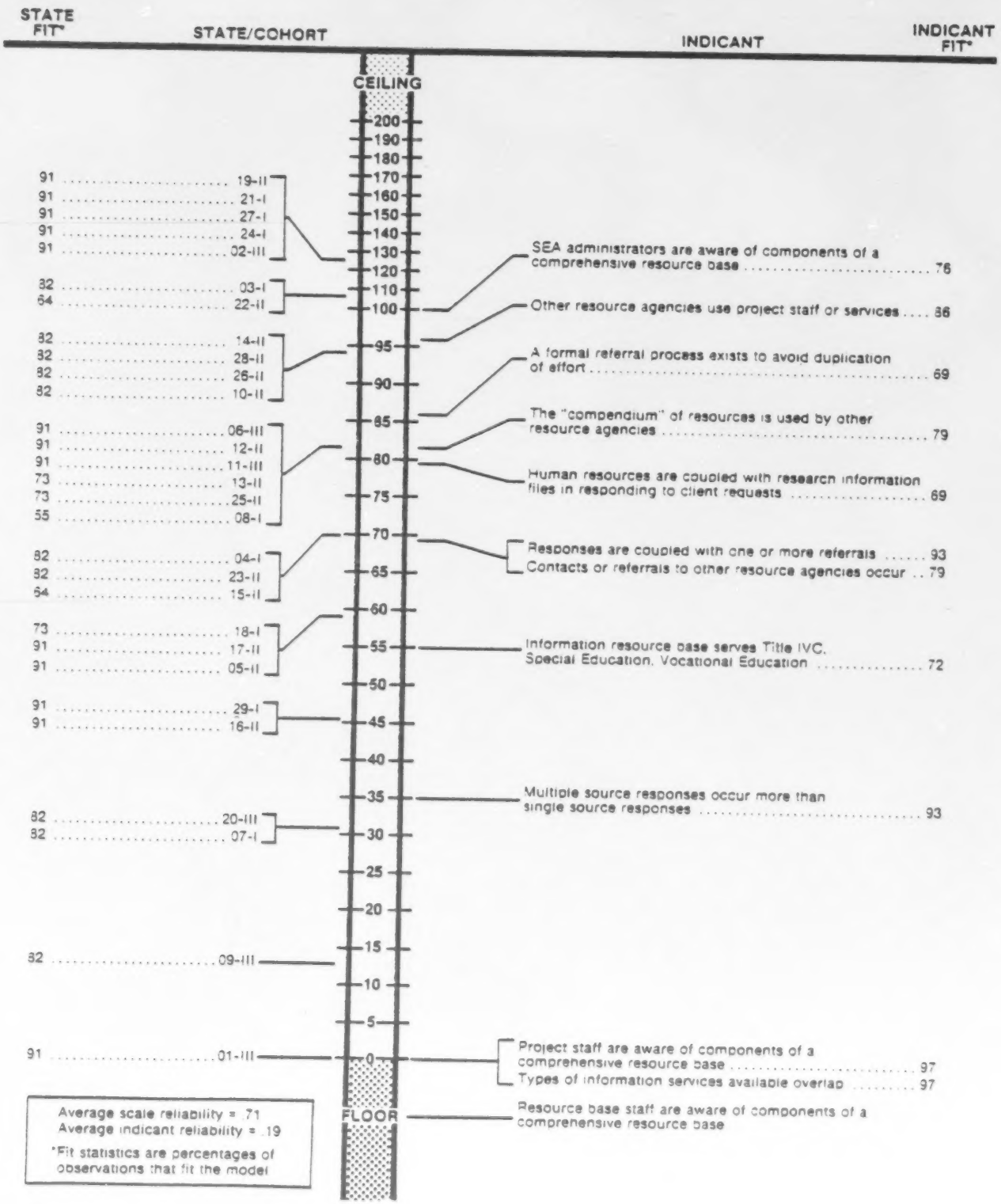


Figure A.4

COORDINATED LINKAGES

CONSTRUCT MAP

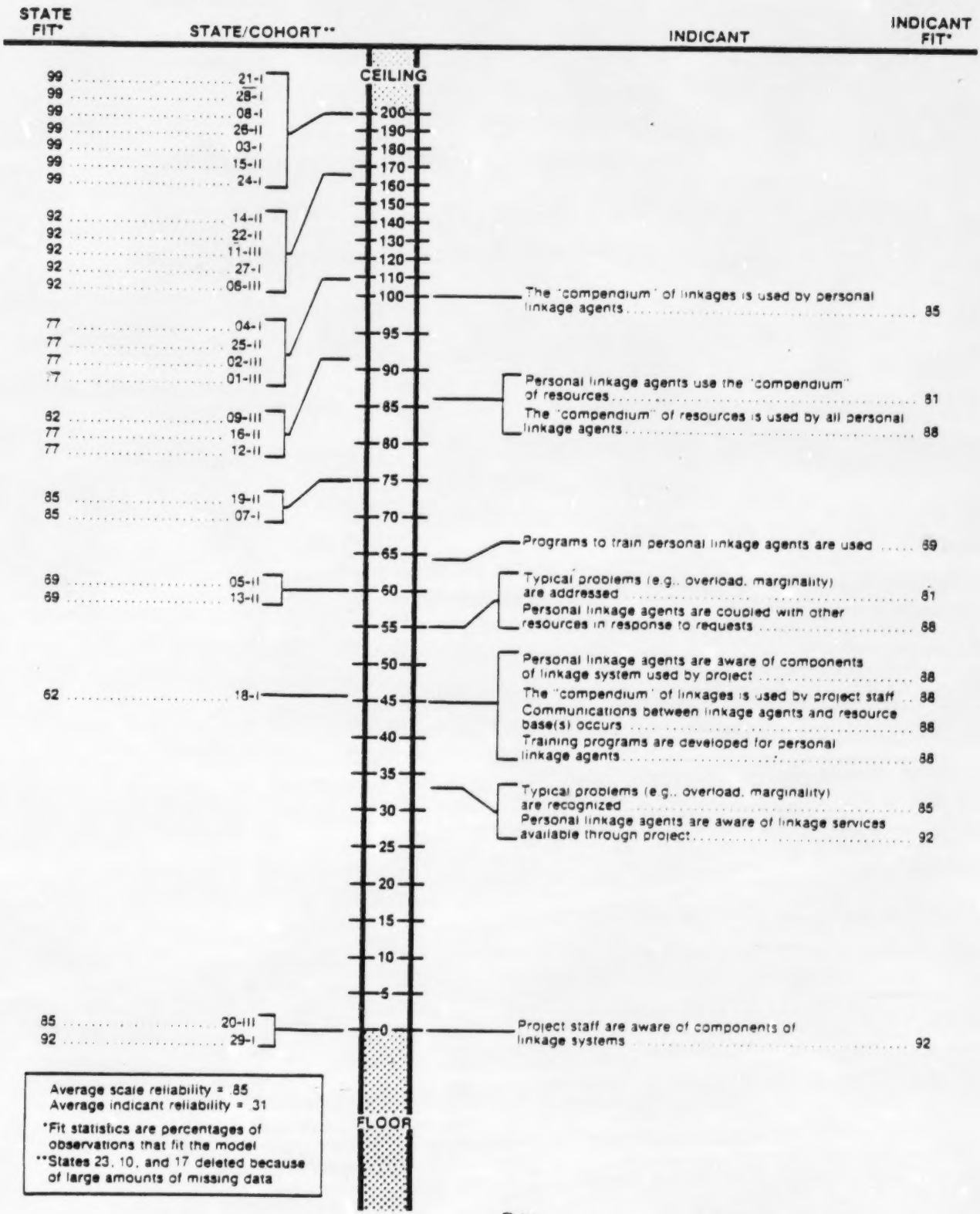
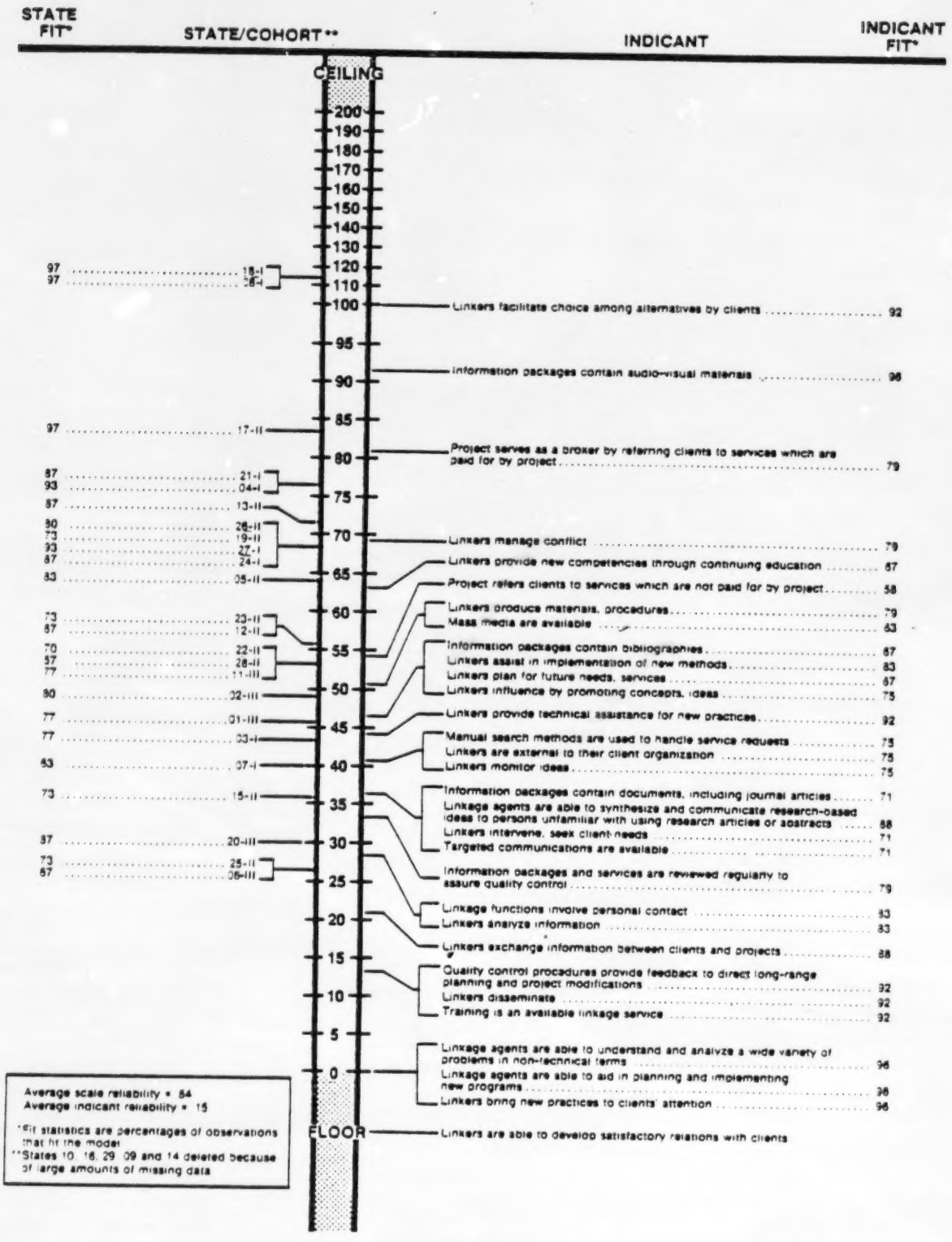


Figure A.5

AVAILABLE LINKAGES, PRODUCTS AND SERVICES

CONSTRUCT MAP

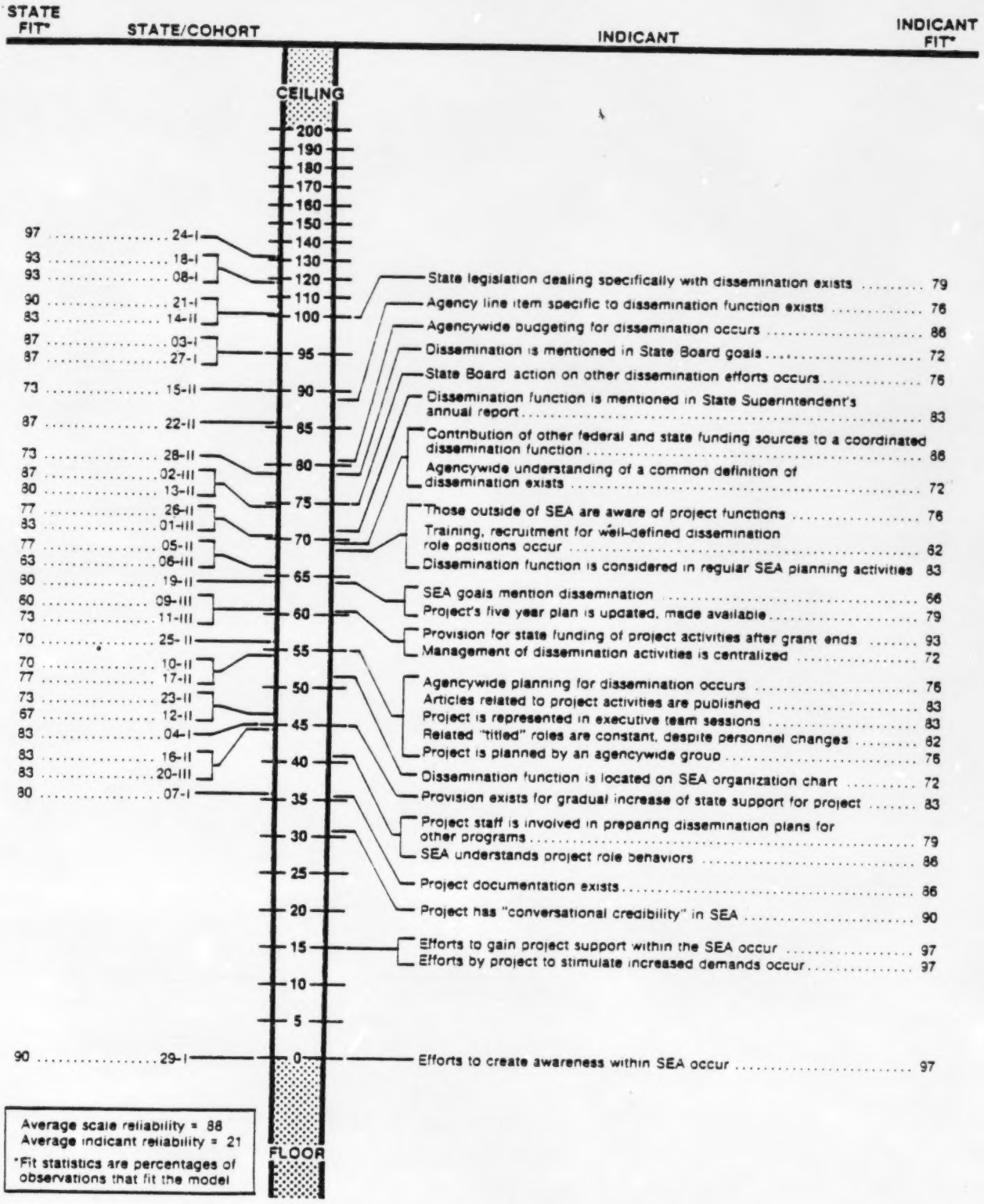


Average scale reliability = 84
Average indicant reliability = 15

*Fit statistics are percentages of observations that fit the model.
**States 10, 16, 29, 09 and 14 deleted because of large amounts of missing data.

Figure A.6

INSTITUTIONALIZATION
CONSTRUCT MAP



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